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Commodity Supply

Sohyo's Scheduled Strike

A-H Bomb Tests and Japan

Anglo-Japanese Trade Agreement

Liberal-Democratic Party Convention

Nuclear Power & Japan's Energy

Soviet-Japan Fisheries Talks

Mounting Machinery Orders

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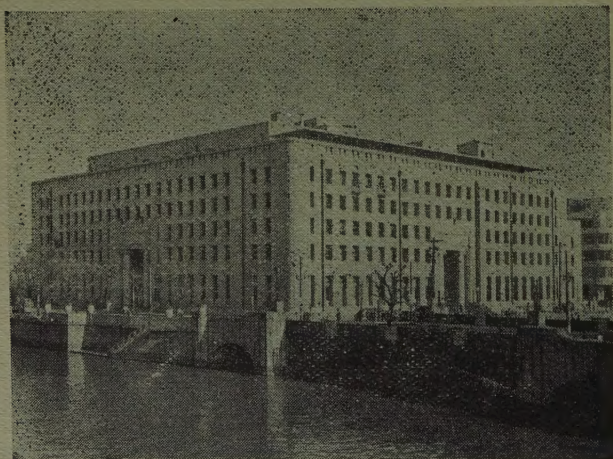
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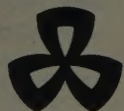
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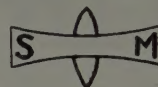
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Review of the Month

THE opposition to the British H-bomb tests in the Christmas Island area in Japanese governmental and civilian circles has been unprecedentedly strong. The Japanese Government has asked the British Government to stop the proposed H-bomb

A-H BOMB TESTS AND JAPAN

tests on three occasions since January 31, and is expected to dispatch Prof. Masatoshi Matsushita, president of Rikkyo University and member of the Nippon Seikokai (Anglican-Episcopal Church) to Britain as the special envoy of Prime Minister Nobusuke Kishi to appeal against the forthcoming tests. The Japanese House of Councillors on March 15 unanimously approved a resolution on a ban to be placed on atomic and hydrogen bomb tests while the Japan Anti-A-H Bomb Council is planning to send a "sit-down" fleet to the Christmas Island area with the object of protesting to the British tests. The Japanese opposition to atomic and hydrogen bomb tests has not been restricted to the forthcoming experiments in the Christmas Island area, although the current drive has been synchronized with the reported British plan to carry out the tests in that area either in March or April. If the nuclear bomb tests by the Soviet Union had been previously announced, we Japanese must have made an appeal, similar in nature as those already made to Britain and the United States, to Moscow to stop such experiments. Japan has been opposing atomic and hydrogen bomb tests by any country in the past and will continue to do so in the future. In this connection, the Japanese Government on March 9 called the attention of the Kremlin to frequent tests of nuclear weapon conducted by the Soviet Union in the past without previous warnings and asked the Kremlin leaders to give up future tests of the kind. A similar appeal against the future tests of nuclear weapons was also made by the Japan Socialist Party to the Soviet Union through the Soviet Embassy here on March 14. The Japanese opposition to the tests of nuclear weapons has not thus been directed to Britain and the United States alone. We are quite at a loss in this connection why the Soviet Union has made frequent tests of nuclear weapons without any previous warnings. There is apparently no need of keeping these tests secret since such experiments, if once carried out, will come immediately to the knowledge of other countries. The Soviet Union is definitely mistaken if it ever considers that it stands under no obligation to make previous warnings as such tests are carried out in its own territory. There are no boundaries in the air. The Soviet Union is just as much to blame for atomic and hydrogen bomb tests as Britain and the United States.

Direct damages to the Japanese fishing operations of course constitute a grave problem, but the thing we fear most is the gradual accumulation of radioactive strontium 90. If atomic and hydrogen bomb tests were carried out in the future at the same frequency as witnessed in the past two years, Japanese scientists fear that the accumulation of strontium

90 would reach the limit acceptable by human bodies within a period of 10 years to come. Of the "ashes of death" created by atomic hydrogen bomb explosions, larger particles generally drop in the neighborhood of test areas, but tinier particles, just as fine as mist, will be scattered over the globe on the wings of atmospheric cycles. Strontium 90, the longest-lived of the "ashes of death," remains alive long behind and quietly falls on the surface of the globe, to be accumulated gradually within vegetables, livestock and human bodies. Excessive accumulation will finally lead to leukemia.

Some 11 long years have passed since Hiroshima and Nagasaki were christened with atomic bombs and yet deaths of A-bomb victims are still reported at frequent intervals. A few of such victims die of leukemia or aplastic anemia each month. About 220,000 survivors of the Hiroshima and Nagasaki massacres, now scattered throughout the country, live in constant fear that radioactive symptoms may become apparent at any time, as medical science today has no cure for them. Still more forlorn are the lives of those already attacked with leukemia or aplastic anemia. We Japanese, the one and only party in the world having gone through the bitter experiences of atomic bombs, consider ourselves standing under an imperative obligation to appeal against any future tests of nuclear weapons.

THE procrastinated Soviet-Japanese fishery negotiations, which appeared bound for a settlement for the first time after they got started on February 14 on the basis of a new Soviet proposal of March 21

SOVIET-JAPAN FISHERY TALKS

setting the limit of Japanese salmon catches at 120,000 tons, have become stalemated again when it has been made known that the new proposal carries two supplementary conditions unacceptable by the Japanese side. The two terms accompanying the new Soviet proposal are 1) Preliminary to a total ban planned (by the Soviet side) to be placed on fishing operations in the Sea of Okhotsk in the future, the Japanese catch for the current year shall be restricted to within 10,000 tons by one fishing fleet (the actual catch in 1956—16,000 tons by two fleets); and 2) Although the limit for the current year is based on a "big catch" program, the 1956 agreement on the 80,000-100,000 ton limit shall still hold good. The Japanese side, which originally demanded the 165,000 ton limit, later conceded to 145,000 tons while the Soviet side had been adhering to the limit of 80,000 tons in a "poor catch" year and 100,000 tons in a "big catch" year (as based on the Kono-Ishkov talks in Moscow in May, 1956, according to the Soviet side) until it made a compromise proposal of 120,000 tons. It may thus be noted that the Soviet side has not changed its original stand to stick to the 80,000-100,000 ton limit, as the 120,000 ton mark is undoubtedly a provisional limit applicable only to the current year. This attitude of the Soviet delegation is quite incomprehensible. Under the provisions of the Soviet-Japanese fisheries treaty, the annual catches are to be decided on the basis of resources surveys to be jointly undertaken by Japan and the Soviet Union. Hence, any attempt to conduct the talks within a certain set frame is not acceptable to the Japanese side. In the current negotiations, the Japanese side

has tried to prove that the salmon resources in the northwestern Pacific have not declined on the basis of fisheries statistics, prewar and postwar, while the Soviet side has insisted that the annual decrease of salmons and trouts swimming up the rivers in the Kamchatka peninsula is a proof of the declining resources. It cannot be hastily concluded that the decline of salmons and trouts up the rivers for laying eggs is due chiefly to the "reckless" catching by the Japanese side.

According to Prof. Hiroaki Aikawa of Kyushu University, the charge that offshore fishing causes any particular damage to the groups of fish going up the rivers for laying eggs is not justifiable, as off-shore fishing among stray shoals of fish is far less efficient than coastal fishing directed at crowded schools along the coasts. Prof. Aikawa opines that the effects of catches on resources should be gauged on the basis of the total amount of catches inclusive of off-shore and coastal operations. Stating that the effects of Japanese off-shore fishing should not be particularly exaggerated, he adds that the sound state of egg-beds in rivers near the northwestern Pacific for schools of spawners should be first attested to, and the effects of atmospheric factors such as precipitation, snowfall and water level of rivers concerned on the volume of young fish swimming down rivers into seas as well as the eggs being hatched should be carefully studied with special reference to their relations with the total volume of off-shore catches.

If the capacity of rivers to accommodate spawners decreases and egg-beds grow devastated, the size of shoals of spawners will naturally dwindle. It is on this ground that we cannot agree to the complaint that the size of spawner schools going up rivers is reduced by active off-shore operations. If the Soviet claims are proved scientifically rational, Japan will be obliged to accept the limit of catches, however low, set by the Soviet side. The Soviet side is open to blame for an attempt to bring political pressure to bear upon Japan if it tries to restrict the limit of Japanese catches on the basis of unilateral data. With the diplomatic relations between Japan and the Soviet Union reopened just several months ago, the Japanese people are closely watching the attitude of Soviet leaders. The impression that the Soviet Union is trying to force arbitrary claims on Japan will not be welcome for the future amity between the two countries.

THE "spring offensive" of *Sohyo* (General Council of Japanese Trade Unions) has passed the worst stage with the compromises accepted with management by the two major member unions—the National

SOHYO'S SCHEDULED STRIKE

Railways Workers Union and the Japan Coal Miners Union. The spring offensive, together with the autumn offensive, is a major biannual event on the struggle program of *Sohyo*. According to previously-arranged schedules, member unions go on strike simultaneously with the presentation of their demands, and such pre-arranged strike schedules are seldom changed even in the course of negotiations with management. The strike by the Japan Coal Miners Union in the spring offensive came at the time when electric power threatened to run

short and coal stocks were dwindling. Members of the National Railways Workers Union, flagmen inclusive, walked out on the pretext of so-called "workshop rallies" to the standstill of railway services throughout the country. For sending energy and transportation, the two bottlenecks in Japanese economy, simultaneously on strike under its schedule, *Sohyo* is certainly open to criticism as aiming at a political fight instead of an economic struggle. The immediate crisis was averted in the form of a truce pending the arbitration based on the wage increase plan by the Public Corporation and Government Enterprise Arbitration Commission. The spring offensive by *Sohyo*, however, has left many problems pending in its wake. Outstanding among them are the strike by *Kankoro* (Union of Government and Public Corporation Workers) and the possible effects on Japanese economy. The Japanese people are highly critical of the recourse to action by *Kankoro* in view of the fact that *Kankoro's* action has been growing more illegal year by year and becoming almost habitual. Members of *Kankoro* are legally prohibited from strike action on penalty of discharge. Simultaneous leave-taking or earlier departure from workshops, coming under the purview of action legally banned as "all action disturbing to the normal execution of business," is undeniably illegal. Repetition of such illegal action is certainly embarrassing to the nation and damaging to the national economy. To put an end to such wicked practice, the Government is urged to take the sternest attitude possible. The irresponsible and peace-at-any-price policy of higher governmental officials in the past is largely responsible for enabling *Kankoro* members to act beyond the limit of popular patience. If the Government is unable to do anything to stop illegal action being taken in public, it would be just next door to a revolution, and the Japanese people in general cannot remain a mere spectator.

In the spring offensive, the compromise was reached at the wage hike ranging between ¥1,200 and ¥1,300 against the average demand for ¥2,000, and the resultant repercussions on the national economy are certainly far-reaching. The ¥1,300 wage raise recognized for coal miners means the cost price hike of coal by ¥200 per ton. Private railways are planning to cover the larger outlay resultant from the compromised ¥1,350 wage hike by raising fares by about 10% while the National Railways has already decided on a 13% boost of fares. All these new developments will serve to elevate the production costs of key materials. The latest survey by the Bank of Japan reported that overseas commodity prices have been on the decline, threatening to widen the gap from the higher Japanese quotations. We are afraid that the higher level of Japanese prices may prove as a deterrent to the competitive power of Japanese goods on the overseas market. The wage hike also threatens to influence consumer purchasing power. On the heels of *Sohyo's* offensive, other labor unions are reported planning to stage similar struggles for higher wages and the total wage boosts are estimated to have reached ¥100,000 million a year. This wage hike, plus the proposed ¥100,000 tax cut, make a colossal addition to purchasing power. For the smooth growth of the national economy under

the circumstances, greater productivity and larger savings will be the only keys.

THE fourth national convention of the Liberal-Democratic Party was held at the Sankei Hall in Tokyo on March 21 in the presence of some 500 attendants including party members of both houses and repre-

LIBERAL-DEMOCRATIC PARTY CONVENTION

sentatives of party local chapters to elect the new president and decide on the

organizational activity program for 1957. In the presidential election, Prime Minister Nobusuke Kishi was elected to the presidency by taking 471 out of the total of 476 votes cast, thus unifying the two important posts (presidency and premiership) kept separated since his election to premiership on February 25. The two posts, which should be held united under party politics, remained parted for nearly a month because of the delay of the 4th party convention. It is generally understood that the opening of the 4th convention was purposely delayed in order to avoid possible confusion over the election of a vice-president. The showdown over the vice-presidential issue was avoided when it was compromised by those present that the vice-presidential issue would be left to the decision of the president, and a vice-president would be named by the president subject to the approval of the executive committee. The background of the current Kishi Cabinet is practically the same as the one that supported its predecessor. This is the only way for Mr. Kishi to keep party members in control. The almost unanimous selection of Mr. Kishi as the new party president is the best witness to the fact. Any personnel changes either in Cabinet or party leaderships seem unlikely until the day when new faction-combinations favorable to Mr. Kishi can be formed.

The 4th party convention decided on the organizational activity program for 1957 but did not touch upon any new party policies apparently because of the fear that any new policies made public during the session of the Diet might invite fresh attacks by the Opposition. It is presumably for the same reason that President Kishi in his address at the convention placed major stress on the "unity within his party" and "more frequent contacts with the Socialist Party in the management of parliamentary affairs," and went little beyond the policies proclaimed by the outgoing President, Tanzan Ishibashi. On the contrary, the organizational party activity program carried something fresh. In this program, the Liberal-Democratic Party clarified its policy to cast off the habitual practice of depending on individual contacts and personal influences in election campaigns but to appeal to voters positively through systematic campaign organs after the pattern of the Socialist Party whose election policy has been based on organized campaigns through trade unions. To that end, the program calls for 1) the spread of the party system to cities, towns, villages and smaller communities; 2) the formation of a "Japan Conservative Club" by industrialists and financiers as an outer-party organ; and 3) the creation of workshop party chapters in factories and offices to supplement local chapters which in the past formed the nucleus of Conservative parties.

Business Indicators

Prices:—The wholesale prices, which began to stiffen at the close of last year, continued firm throughout February but started to soften somewhat from early March. Responsible for the latest weakening is the slip of foodstuffs and textile products due to the lean demand season. The price hike during the period from September, 1956 to March this year was led by building materials which rose 9.2%, followed by fuel and food items with the rise of 5.0-7.0%. As compared with the average gain of 5.6% registered by consumer goods during the period under review, producer goods as a whole slipped about 1.0% principally because of the recession of metal goods which dipped as much as 9.0%. The retreat of producer goods was reactionary to a stiff increase which was witnessed for several months until the early autumn of 1956. Thus, the average wholesale price index for building materials as of March, this year was 18.0% higher than a year ago while metals stood 12.7% higher and fuels and machinery were also 7.5-9.0% up. Taking the one year ended March, this year, therefore, producer goods were still taking the lead with the average gain of 8.4% while the hike of consumer goods stood at 4.1% due to the belated start of the march.

1. WHOLESALE PRICE INDICES

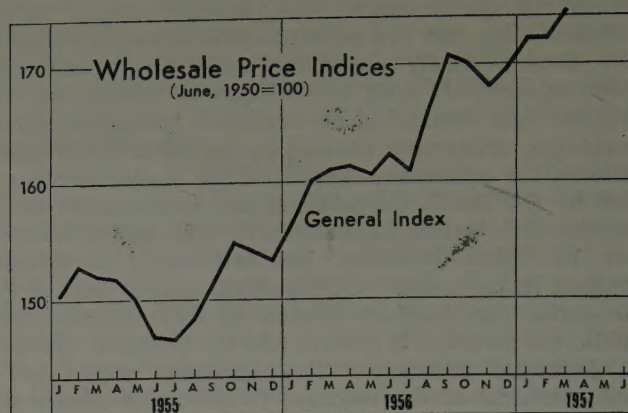
(June, 1950=100)

	March, 1956	Sept., 1956	March, 1957	Against Sept. 1956	Against March, 1956
Total Average	161.1	170.9	172.5	100.9	107.1
Foodstuffs	153.7	149.4	157.7	105.6	102.6
Textiles	92.8	92.1	90.5	98.3	97.5
Fuels	161.4	164.8	174.2	105.7	107.9
Metals	273.6	338.5	308.4	91.1	112.7
Machinery	182.0	188.7	195.7	103.7	107.5
Building Materials	208.3	225.0	245.7	109.2	118.0
Chemicals	105.6	106.1	108.6	102.4	102.8
Sundries	137.3	133.8	136.7	102.2	99.6
Consumer Goods	145.5	143.4	151.5	105.6	104.1
Producer Goods	169.6	185.8	183.9	99.0	108.4
Total Average minus Foodstuffs	163.4	177.6	177.1	99.7	108.4

Note: As of mid-month.

Source: Economic Planning Board.

Living Cost:—It may thus be noted that consumer goods as a whole did not make any particularly sharp increment since the early part of 1956, and the cost of living eventually was free from any drastic fluctuations. From late December, last year through January, this year, however, the consumer prices tended markedly upward on the spur of the stiff tone of consumer goods with foodstuffs at the helm. The seasonal boost of light-fuel expenses in January counterbalanced the slip of the clothing expense and the January average index of consumer prices stood 0.8% higher than December and 3.7% higher than a year ago. Of the expense groups, the light-fuel expense registered the largest gain of 7.7% over a year ago with the housing expense up



6.4% and the non-staple food expense up 6.2%. It is noted that the rising tempo of the housing expense was comparatively weakened in the past one year in view of the fact that the annual gain exceeded 10.0% in the preceding several years. With the prices of perishables due to slip in the spring delivery season, the household budget is expected to remain stable for some months to come.

2. TOKYO CONSUMER PRICE INDICES

(1951=100)

	Dec., 1956	Jan., 1956	Against Dec., 1956	Against Jan., 1955
Total Average	118.9	119.8	100.8	103.7
Foodstuffs	113.6	114.7	101.0	103.8
Staple	120.7	120.9	100.2	99.8
Non-staple	109.9	111.4	101.4	106.2
Clothing	83.0	82.9	99.9	101.7
Light-Fuel	142.9	150.2	105.1	107.7
Housing	145.3	145.5	100.1	106.4
Miscellaneous	142.7	142.7	141.6	103.0

Source: Bureau of Statistics, Prime Minister's Office.

Consumer Demand:—The stiff tone of prices has been based on active demands. Plant and equipment investments have continued brisk with the monthly average in calendar 1956 placed at ¥58,800 million, up about 90.0% as compared with the like average of ¥30,900 million in calendar 1955, according to the Economic Planning Board. Shipbuilding has also continued active with more ships being constructed for export while housing-starts have kept on increasing. The total space of new housing starts as of December, 1956 was 27% larger than a year ago. On the strength of rising demands by plant-equipment investments, shipbuilding and housing-starts, the prices of producer goods such as iron-steel products, machinery and building materials have begun to stiffen. Greater industrial activity naturally has increased demands for electric power, petroleum and coal, and fuel prices have also gone up. General consumer demand has continued equally brisk. According to the Ministry of International Trade & Industry, sales at all department stores throughout the country totalled ¥52,600 million in December, 1956, marking a notable gain of 28.2%

over a year ago and far eclipsing the 11.6% increase registered in December, 1955 over a year before.

3. DEPARTMENT STORE SALES

	1955		1956	
	¥100 million	Indices (A year ago as 100)	¥100 million	Indices (A year ago as 100)
June	147.1	107.2	181.1	123.1
July	193.1	105.9	236.9	122.6
August	142.4	102.7	178.2	125.1
September	124.5	111.9	156.5	125.7
October	173.7	100.4	208.8	120.2
November	195.3	112.4	235.2	120.4
December	410.2	111.6	525.7	128.2

Source: Compiled by *The Oriental Economist* from MITI figures.

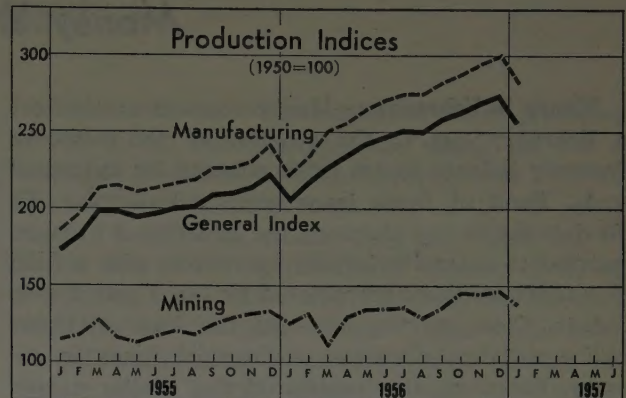
Production:—Supported by active demands, production has continued to remain at a high level. The January production index (mining and manufacturing inclusive) stood at 256.8 (based on the 1950 average as 100), registering a 6.3% recession from December's 274.0. The January drop, however, was not particularly surprising, as production would generally slip in that month due to more holidays and the seasonal power shortage. The January index was still 24.7% higher than a year ago with machinery leading with the sharp gain of 57.8%, followed by steel ships with the rise of 55.9% and rubber with the hike of 42.3%. Increases well exceeding 20.0% were also marked by ceramics, rolling stock, iron-steel, coal and petroleum products, textiles, lumber, non-ferrous metals and chemical products. Despite sizable gains in production, machinery and iron-steel have continued undersupplied, as demands have swelled at a speedier tempo. On the other hand, textile goods have begun to be oversupplied as the demand has apparently hit the ceiling with spun rayon already in a state of overproduction. Similar trends are also apparent with soda products and fertilizers.

4. JANUARY PRODUCTION INDICES (1950=100)

	Dec., 1956	Jan., 1957	Against Dec., 1956	Against Jan., 1956
Mining-Manufacturing	274.0	256.8	93.7	124.7
Mining	146.0	138.2	94.7	110.2
Manufacturing	300.4	281.2	93.6	126.4
Iron & Steel	252.1	250.5	99.4	124.9
Non-Ferrous Metals	221.9	214.5	96.7	121.6
Machinery	349.2	303.5	86.9	157.8
Steel Ships	609.7	609.7	100.0	155.9
Rolling Stocks	171.6	110.0	64.1	126.5
Textiles	342.3	316.1	92.3	123.9
Paper & Pulp	312.0	300.1	96.2	119.8
Chemicals	262.8	257.5	98.0	121.5
Pharmaceuticals	1,016.1	819.7	80.7	100.0
Oil Products	585.7	558.4	95.3	124.7
Ceramics	247.4	224.9	90.9	127.3
Rubber Goods	204.4	200.6	98.1	142.3
Leather Goods	291.3	261.7	89.8	115.7
Daily Necessaries	259.4	219.2	84.5	118.2
Lumber	189.9	175.7	92.5	121.9
Foodstuffs	216.5	201.5	93.1	104.4
Tobacco	133.0	126.2	94.9	93.7

Source: MITI.

Inventories:—With production continuing at a high pitch, the balance of month-end inventories in the hands of manufacturers began to excell the like balance a year ago from about November, 1956.



Thus, the balance as of the end of January this year was 6.2% larger than a year ago chiefly because of the hike of inventories of manufactured goods as mining products registered a sharp loss of 38.0% from a year ago due to the sharp recession of coal in stock. Inventories of the manufacturing group alone rose about 10.0%. The balance of inventories held by merchants as of the end of December, 1956 was 21.5% up over a year ago, well bespeaking of the progress of restocking by retailers and wholesalers. Far more noteworthy is the increasing tempo of inventories of imported raw materials parallel with the remarkable gain of imports since the summer of 1956, and the balance as of the end of January, 1957 stood 45.6% higher than a year ago. With inventories of imported raw materials thus swinging up notably, some circles opine that there is every likelihood that imports will tend steadily downward to the improvement of the balance of Japan's international accounts. The tight-money situation will resultantly begin to slacken, according to these circles. Other quarters, on the hand, take a view that active imports based on the unabated business boom will continue without a break for the time being and the adverse balance of international accounts will be inevitable. Meanwhile, the abrupt hike of prices is expected to be successfully curbed by the smooth imports of raw materials and the mounting volumes of inventories in hands of manufacturers and merchants.

5. INDICES OF MANUFACTURERS' INVENTORIES (1950 average=100)

	Dec., 1956	Jan., 1957	Against Dec., 1956	Against Jan., 1955
Mining-Manufacturing	141.7	142.2	100.4	106.2
Mining	55.3	50.7	91.7	62.1
Manufacturing	152.6	153.8	100.8	109.5
Iron & Steel	164.4	169.2	102.9	104.1
Non-ferrous Metals	82.7	80.5	97.3	120.3
Machinery	171.5	186.3	108.6	114.1
Textiles	117.8	119.5	101.4	117.6
Paper, Pulp	220.5	214.4	97.2	68.8
Chemical	322.7	304.8	94.5	124.1
Petroleum, Coal Products	152.8	154.8	101.3	100.2
Ceramics	123.2	120.4	97.7	94.7
Rubber Goods	198.2	198.5	100.2	110.5
Hides, Leathers	115.7	113.0	97.7	108.1
Others	100.6	103.2	102.6	141.8

Source: Ministry of International Trade & Industry.

Money and Banking

Money in February:—Money went extremely tight in February due to the swelling of the public-to-Treasury balance and a brisk demand for industrial funds. Bank of Japan loans increased sharply. To alleviate the money shortage, the Ministry of Finance resorted to extensive buying operations with a fund of ¥12,000 million appropriated by the Trust Funds Bureau. Close on the heels of the huge ¥140,900 million withdrawal excess of financial funds in January, February also registered the similar excess of withdrawal to the amount of ¥95,700 million, about 50% larger than the originally-expected mark for the month. The major causes were: 1) the withdrawal excess in the General Account, based on the tax revenue, was extremely large in February (reaching ¥45,100 million as compared with the ¥16,600 million withdrawal excess for February, 1956); 2) the withdrawal excess in the Special Accounts also leaped to ¥35,100 million from ¥16,800 million a year ago; 3) the Foreign Exchange Account registered the withdrawal excess of ¥22,400 million due to active imports as compared with the payment excess of ¥12,500 million a year ago. Of the three major developments, the bulky size of the withdrawal excess in the Foreign Exchange Account was most unexpected.

With the marked gain in withdrawal excess marking financial funds, the circulation of private funds was greatly squeezed and the Government had to alleviate the money shortage by endeavoring to return funds to private quarters through buying operations directed at banking and corporate bonds with the funds from the Trust Funds Bureau. Some ¥12,000 million were spent for the purpose in February as compared with ¥8,000 million to the same end in December, last year. With financial funds actively withdrawn on the one hand and the demand for industrial funds notably brisk, money in the hands of private monetary institutions ran extremely short. In the February accounts of all banks throughout the country, loans increased as much as ¥73,900 million while real deposits slipped ¥17,900 million, presenting a sharp contrast with the January account with real deposits increasing ¥32,900 million and loans up ¥17,200 million. Particularly noteworthy was the boost of loans extended by leading banks to take care of import bills. The amount of loans by long-term credit banks in February also doubled January's mark. All such developments combined to increase Bank of Japan loans by ¥75,400 million.

Reserve Deposit System:—The payment reserve system, under exhaustive study by the Monetary Investigation Council since June, 1956, is expected to be inaugurated in the near future under the new name of reserve deposit system on the basis of the Council's report to the Minister of Finance. The

new system is one of the three major measures for regulating the movement of money, the other two being the official rate policy and open market operations. With the latter two measures already in operation in this country, the payment reserve system has not been enforced in this country as yet. On the basis of the report submitted by the Council, the Ministry of Finance is expected to draft a deposit reserve system bill for presentation to the current session of the National Diet. The Government's decision on the early enforcement of the reserve deposit system has come in view of the increasing need of adopting a measure more powerful than the official rate system which proved almost ineffective in normalizing the money market when money became exceedingly easy from the autumn of 1955 through the spring of 1956. Opinion on the advisability of the reserve deposit system was divided at first, as some quarters minimized the need of the system in a country like Japan where capital accumulation is still meagre. Under the reserve deposit system to be inaugurated soon after the parliamentary nod, all banks (including commercial banks, trust banks, long-term credit banks and exchange banks) as well as foreign banks in Japan will be required to have certain percentages of deposits in hand reserved without compensation at the Bank of Japan. The maximum percentage of the deposits to be held at the Bank of Japan will be legally set at 10.0% with the minimum point to be properly changed to cope with monetary and financial fluctuations.

Protection for Depositors:—Another report submitted by the Monetary System Investigation Council concerns the protection to be given to depositors with minor monetary institutions (principally mutual banks and credit banks). The protection requested in the report calls for the adoption of three measures: 1) a deposit guarantee fund to be established with one-thousandth of the funds owned by such monetary organs. This fund will be used for financing such monetary organs in difficulty but with good prospects of recovery and also for deposit payments; 2) the stronger authority on the part of the Ministry of Finance to control management or exercise supervision over minor monetary institutions in difficulty; and 3) the stronger control over the so-called "induction deposits" earmarked for specially-designated loans.

MONEY IN FEBRUARY
(In ¥100 million)

Note Issue	February, 1957	February, 1956
End of January	6,764	5,828
End of February	6,586	5,686
Decrease	178	142
Financial Funds (1)	957	202
Short-term Bonds (2)	1	144
Bank of Japan Loans (3)	754	71
Others (4)	24	13
(1)+(2)+(3)+(4)	178	142

Source: Compiled by *The Oriental Economist*.

Stock Market

Evening-up:—The stock market has been apparently at a standstill after the February 12 upswing, as evening-up transactions have been predominant. The revised Dow-Jones average of the 225 industrial pivots rose to a new high at ¥587.88 on February 12, slightly eclipsing the January high of ¥586.01 (21st), but continued to slip later with the March 9 average dropping to ¥560.77, lower than the February low of ¥561.91. The average quotation of the 225 industrials, which registered a new high at ¥573.99 in February, fell sharply to ¥566.09 in the first nine days of March (1st to 9th). The average volume of daily turnovers in the first nine days of March also dwindled to 23,034,000 shares, the lowest daily average since November, 1956, well attesting to the further softening of the market tone.

1. AVERAGE SHARE PRICE AND DAILY TURNOVERS

	Share Price (Yen)			Average Daily Turnovers (1,000 shares)
	High	Low	Average	
1956: April.....	487.35	462.41	472.22	28,485
May	488.43	472.10	480.55	24,355
June	512.25	491.03	502.21	27,528
July	502.14	482.87	490.81	16,042
August	507.31	493.69	503.03	15,450
September	492.92	482.70	487.24	12,127
October	508.98	487.15	496.19	19,986
November	556.58	512.94	532.76	39,673
December	566.30	542.91	554.92	28,163
1957: January	586.01	549.45	572.80	39,771
February	587.88	562.91	573.99	30,390
March	570.52	560.77	566.09	23,034

Successive Dampers:—The market lethargy, although partly due to a reactionary apathy in the wake of an unexpected stiffening directly after the turn of the year, was attributable more to a series of new dampers such as: 1) The exit of the Ishibashi Cabinet—the “New Year” rebounding on the strength of the policies expected to be pursued by the Ishibashi Cabinet swiftly vanished with the resignation of the Ishibashi Cabinet en bloc; 2) The advent of a tight-money situation; 3) Increasing sales of shares by monetary institutions and life insurance companies; 4) The deadlock of securities financing; and 5) The rumors of possible restrictions over share investment by individuals under the names of securities merchants. In addition to such deterrents directly related to the stock market, some other external developments worked to depress the market. Outstanding among them are: 1) Increasing caution against the continuance of the world-wide boom; 2) The recession of the shipping market; 3) The worsening balance of Japan's international accounts; and 4) Apparent signs of overproduction in some key industries.

Leaders Down:—The retreat of share prices was overall for all the 22 groups into which the 225 pivots are classified. During the period from February 12 and March 9, the average drop of the 22 groups reached 4.42% with Ocean Shipping registering the largest loss of 12.71% principally because of the slip of shipping rates under the impact of the imminent reopening of the Suez Canal. Other major losers were Transportation Machinery (down 8.19%), machinery (down 6.93%), primary metals (down 6.09%), mining (down 5.98%) and Electric Machine Tools (down 4.96%). It may thus be noted that favorite heavy industrials receded in unison. The real estate group which slipped 8.03% was affected by the movement of semi-speculative issues like Mitsubishi Real Estate. Other losers included Textiles (5.30% down), Paper-Pulp (5.28% down), Warehousing (5.15% down) and Service Professions (5.56% down).

New Trends:—Some of the noteworthy features of the stock market movements in recent weeks were a series of kaleidoscopic changes which marked speculative shares and a round of new speculative buying operations directed towards minor stocks long in oblivion, a phenomenon oftentimes witnessed at the last stage of a stock market boom. Representative of such cases was active speculative buying pivoted on Nakayama Steel and Nippon Steel shares in January which finally forced the Tokyo Securities Exchange management to place restrictions on speculative dealings. Equally noteworthy were sharp fluctuations of Daikyo Oil, Toa Oil and Toyo Sugar shares from mid-February through early March. Toyo

2. SHARE PRICE MOVEMENT BY GROUP

	Feb. 12 (Yen)	Mar. 11 (Yen)	Gains (Yen)	%
Average of 225 Pivots....	587.88	560.88	31.00	4.42
Fisheries	172.06	163.91	8.15	4.07
Mining	426.03	400.52	25.51	5.98
Foodstuffs	1,028.67	998.67	30.00	2.91
Textiles	601.01	569.14	31.87	5.30
Paper, Pulp.....	739.58	700.52	39.06	5.28
Chemicals	366.71	349.33	17.68	4.73
Petroleum, Coal Products ..	1,556.67	1,523.33	33.34	2.14
Glass, Clay, Stone Products..	862.63	840.40	22.23	2.56
Primary Metals	212.37	199.42	12.95	6.09
Machinery	325.07	302.53	22.54	6.93
Electric Machines, Tools....	340.21	323.32	16.89	4.96
Transportation Machinery ..	349.64	321.00	28.64	8.19
Precision Machines	298.14	297.52	0.62	0.17
Other Manufacturing	426.46	421.69	4.77	1.11
Commerce	1,148.57	1,130.00	28.57	2.40
Banking, Insurance	636.73	631.97	4.76	0.74
Real Estate.....	1,672.13	1,537.70	134.43	8.03
Land Transportation	370.23	364.81	5.42	1.46
Ocean Shipping	332.43	290.16	42.27	12.71
Warehousing	970.00	920.00	50.00	5.15
Electricity, Gas	212.62	205.31	7.31	3.43
Service Professions	344.49	325.31	19.18	5.56

Source: Compiled by *The Oriental Economist*.

Sugar rose to ¥242 in late February but declined sharply to ¥215 on March 9 while Daikyo Oil slipped from ¥303 to ¥228 and Toa Oil declined from ¥245 to ¥130 in the interim. All such fluctuations were due to cornering operations by speculative traders.

Future Outlook:—Opinion is divided on the future prospects of share price movements. Pessimistic quarters take a view that the bearish tone which prevailed from February through March will continue into April through June while optimists opine that the market will begin to pick up from about April after the exhaustion of all major deterrents. The former view is generally supported by monetary institutions and life insurance companies while the latter view is upheld by securities circles. Pessimists, while admitting the start of the market recovery after a round of evening-up operations, assert that share prices will again begin sagging when the rising tone of corporate results commences to hit the ceiling and apparently take the "New Year" pickup as the limit for the time being. Optimists on the other hand predict that money will begin to grow easier from about April or May, imports will start to shrink and the balance of international accounts will improve to the early recovery of the market. Middle-of-the-roaders opine that the definite prediction will be possible only when the future course of

the world boom and the outlook of international accounts become comparatively clear in about April through June.

Whether the share prices begin to pick up sufficiently to enable traders to resort to selling operations on the strength of technical recoveries in the April-June period holds the key to the transitions of the securities market in the remaining months of the year. In sum, in the presence of various deterrents to the current movement of share prices, no positive buying operations by the "masses" are to be expected for the time being. Life insurance companies, admittedly on the alert, are bound to become hesitant to take to heavy buying. Trust companies and leading securities firms, with abundant idle funds at their service, will be led to take to coal loan operations as the call rate has risen to as high as 3.7 sen per diem (about 15% per annum) in preference to low-yielding stock investments. The advent of such new factors restrictive to the rise of active demand for shares is destined to retard the early recovery of share prices. On the other hand, corporate results are expected to continue fair for the term ended March and many listed companies are expected to boost capital. Hence, no sharp recession of share prices is likely in the near future and transactions are bound to continue zigzagging with quotations at a standstill or slightly down.



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Postwar Housing Policy

SINCE the end of World War II fighting there were built some 4,740,000 dwelling units up through fiscal 1956-57 (ended March 31, 1957). (Cf. Table 1) Consequently, the housing shortage has been appreciably eased. Nevertheless, while food and clothing have either returned to or exceeded prewar standards, the housing situation continues to be unsatisfactory.

According to a survey of the housing situation undertaken by the Ministry of Construction in August 1955, there existed at the time a shortage of 2,708,000 units. This shortage was manifested in the following way: 142,000 households living in non-dwelling structures; 670,000 households sharing space with other households; 770,000 dwellings overcrowded; and 1,126,000 dwellings over-age. Note:—by "overcrowded" is meant dwellings with less than 9 mats ("tatami" floor matting—one mat 3'×6' or 18 sq. ft.) or with less than 1.5 mats per person).

Because subsequently there were built, up to the end of March 1957, some 780,000 units there was some improvement; but when the new requirements amounting to some 400,000 units are considered, there still remains a shortage, as of the end of March 1957, estimated at some 3,090,000 dwelling units. This estimate, however, is based on the assumption that all units built since fiscal 1955-56 consist of complete units. In reality, the wealthier people have tended to add new space to their homes, while the less well off continue to put up with inadequate facilities; so the actual deficiency must be considerably greater than the estimated 3 million or so units.

Looking at the situation by available mat space per capita, whereas before the war city dwellers used, on the average, 3.8 mats per person, the 1948-49 level stood at 3.2 mats. There was gradual improve-

ment subsequently so that in fiscal 1955-56, each person, on the average, had 3.4 mats available for use. This still is short of the prewar standard. As for the ownership of urban dwellings, in prewar 1941, owned homes comprised 22 percent of the total; housing furnished by employers (company and government housing) 1.8 percent; and rented dwellings, about 76 percent. In postwar 1948, owned and rented homes were about equal, at 46 percent or thereabouts; with employer-furnished housing at 6.8 percent. Subsequently, the proportion of owned homes steadily increased, while conversely rented dwellings declined. (Cf. Table 2). This is pertinently indicative of the fact that postwar construction of dwellings for rental has not been popular, and that those unable to afford building their own homes have had to face hardships.

Also, in recent years, land values in urban areas have so mounted that acquisition of building sites has become extremely difficult. This has become a major bottleneck for build-up of housing facilities.

In order to eliminate the housing shortage described above, the Government is now implementing a housing policy utilizing four different methods. The first of these is the central government subsidizing of public housing projects undertaken by local governments. The second is the financing on easy terms of private construction by the government-financed Housing Finance Public Bank. The third is the building for sale or rental of modern dwellings by the Government Housing Corporation, a state-financed organization. These three methods are used for government aid toward private housing. The fourth approach is the construction by the government of housing for government employees, and for personnel engaged in reclamation projects.

As shown in Table 1, construction of dwelling

1. DWELLINGS BUILT SINCE THE WAR
(In 1,000 units)

Fiscal Year	Public Projects	H.F.P.B. Dwellings	Government Projects	Government Employee Housing	Subtotal	Private Construction	Total
1945-46	81.1	—	—	23.9	105.1	130.7	135.8
1946-47	48.8	—	—	106.4	155.2	304.7	459.3
1947-48	42.1	—	—	72.5	114.6	511.5	626.1
1948-49	42.9	—	—	43.7	86.6	654.3	740.9
1949-50	26.6	—	—	24.5	51.1	319.0	370.1
1950-51	32.1	62.4	—	26.0	120.5	216.8	337.3
1951-52	27.4	48.6	—	21.0	97.1	148.2	246.3
1952-53	33.4	55.4	—	22.6	111.3	161.5	212.8
1953-54	57.9	55.2	—	22.5	135.7	166.0	301.7
1954-55	53.0	41.6	—	17.3	111.9	166.5	218.4
1955-56	48.0	75.0	20.0	30.0	173.0	245.0	418.0
1956-57	47.0	77.0	23.0	30.0	177.0	280.0	457.0
1957-58*	46.5	88.0	35.0	30.0	199.5	300.0	499.5

Notes: 1) * figures either planned or estimated.

2) "H.F.P.B." stands for Housing Finance Public Bank.

3) figures after 1955-56 include public expansions of existing dwellings.

4) "Government Employee Housing" includes dwellings for reclamation projects, repatriates housing, Etc.

Source: Ministry of Construction.

units since the war, up to the end of fiscal 1956-57, involved a total of 4,744,000 units. Of these, government-aided units totalled 1,429,000 units, or about 30 percent. Below will be given a brief description of the government housing construction projects.

2. DWELLING MAT AREA PER CAPITA IN URBAN DISTRICTS, AND HOME OWNERSHIP

	Mats per Capita	Owned Homes	Rented Dwellings	Housing Provided by Employer
1941	3.8	22.3%	75%	1.8%
1948	3.2	46.7	46.5	6.8
1950	3.2	52.6	38.8	8.6
1953	3.3	57.5	43.6	7.9
1955	3.4	63.3	28.7	8.0

Note: One "tatami" mat represents 3×6 ft. of living space.

Source: Ministry of Construction.

1. *Public Housing Projects.* Treasury-subsidized construction of dwellings began in September, 1945, immediately following upon Japan's surrender, as the result of a Cabinet resolution outlining a program for emergency construction of dwellings for war-damaged cities. Thus a start was made with the building of temporary shelters. Then, in May 1946, as the result of a directive issued by the Allied Occupation, covering "The Principles of Japanese Public Works Projects," it was decided that housing for the masses should be undertaken as public projects, making up a part of the overall program for economic reconstruction, and that Treasury aid should be extended for this job. In July, 1951, there was enacted the "Public Housing Law" which is now in effect, and which regulates the present system of joint state and local government financing of dwelling construction. With the public housing projects, there are the dwellings of the first category, designed for households with from ¥16,000 to ¥32,000 monthly income, and the second category units for families earning less. With the local governments as the principal, the dwelling units are built for rent. The state furnishes one-half the money required for building dwellings of the first category, while for units of the second category two-thirds of the cost is subsidized by the Treasury. The average sizes as of fiscal 1956-57 of these two types of dwellings are respectively 10.5 *Tsubo* and 8.2 *Tsubo* (*Tsubo*=6'×6', or 36 sq. ft.), and about half of the total consists of wooden structures. Rentals are ¥2,500 per month for category one, and ¥1,500 for category two. Because of the huge number of applicants it is extremely difficult to obtain accommodation in these public housing projects. Currently, there are about twenty applicants for each available unit, so lots are drawn. The public housing program for fiscal 1957-58 is as shown in Table 3, and the project calls for the construction of 46,466 units, including disaster reconstruction program units. Emphasis in fiscal 1957-58 will be on the second category, but the total number of units planned is less than in fiscal 1956-57 because of the reduction of the units to be built under the disaster reconstruction program. Government subsidy toward public housing projects amounts to ¥10,700 million.

3. GOVERNMENT HOUSING PROGRAM FOR FISCAL 1957-58

	Units Planned	Comparison with fiscal 1956-57
Public Housing Projects.....	46,466	(-) 497
Category one.....	21,000	(-) 5,400
Category two	25,000	(+) 5,400
Disaster Reconstruction	466	(-) 497
Housing Finance Public Bank	88,000	(+)11,000
Private Dwellings	34,000	(+)12,000
Units for Sale	11,000	(-) 3,600
Units for Rent	5,000	(+) 2,100
Industrial Workers' Housing.....	8,000	(+) 500
Middle & Upper Income Brackets Housing	5,000	(+) 5,000
Dwelling Enlargements	25,000	(-) 5,000
Government Housing Corporation	35,000	(+)12,000
Units for Rent	24,000	(+)12,000
Units for Sale	11,000	0
Government Employee Housing, &c.	30,000	0
Total	199,466	(+)22,503

Source: Ministry of Construction.

4. CONSTRUCTION COSTS, GOVERNMENT HOUSING PROGRAM, FISCAL 1957-58

(In million yen)

	Number of Units (1,000)	Total Outlay	Gov. Invest- ment	Gov. Loans	Private Loans
Public Projects	46.4	10,700	10,700	—	—
H.F.P.B. Projects	88.0	26,500	3,000	23,500	—
Gov. Housing Corp.	35.0	26,500	9,500	12,000	15,000
Subtotal	169.0	73,700	23,200	35,500	15,000
Aid to Fireproof Buildings	—	200	200	—	—
Total.....	169.0	73,900	23,400	35,500	15,000

Notes: 1) Government investment for Public Projects, General Account Appropriation.

2) Government investment for H.F.P.B. and Gov. Housing Corp. projects, out of Industrial Investment Special Account.

Source: Ministry of Construction.

2. *Housing Finance Public Bank Dwellings.* These units are built by private parties on the strength of loans extended by the Housing Finance Public Bank. This bank was formed in June 1950 on the basis of a special law passed for its establishment in May that year. The purpose of this bank is to furnish low-interest, long-term loans, difficult to obtain from other financial institutions, for the purpose of constructing dwellings conducive to healthy cultural living by the public at large. The interest charged is 5.5 percent per annum, or in some cases 6.5 percent, with the redemption period set at 18 years for wooden structures and 35 years for fireproof buildings. The amount extended in loans is limited to 75 percent of the total building cost. In fiscal 1957-58, the expected average size of the H.F.P.B. financed dwelling is 13.2 *Tsubo* with 60 percent of the total built of wood. The projected number of units is 88,000, 11,000 more than in fiscal 1956-57. The Housing Finance Public Bank loans are of the following types; a) loans to private individuals for new dwelling construction; b) loans to private individuals for expansion of existing dwelling space; c) loans to private electric railways for construction of dwellings for sale to private individuals; d) loans to local government housing associations for construction of dwellings for rent; e) loans private companies for construction of company housing for industrial workers; and f) loans to private individuals for

dwellings constructed over business premises in amounts sufficient to cover one storey of space. The H.F.P.B. operational funds for fiscal 1957-58 total some ¥26,500 million, of which ¥3,000 million are in the form of government investment out of the Budget General Account. The balance of ¥23,500 million is disbursed from the Industrial Investment Special Account. However, if an individual wishes to borrow from the H.F.P.B. in order to build a home, he must provide the site and 25 percent of the total construction cost. People unable to meet these requirements are disqualified. Applicants now outnumber H.F.P.B. borrowers 6 to 1.

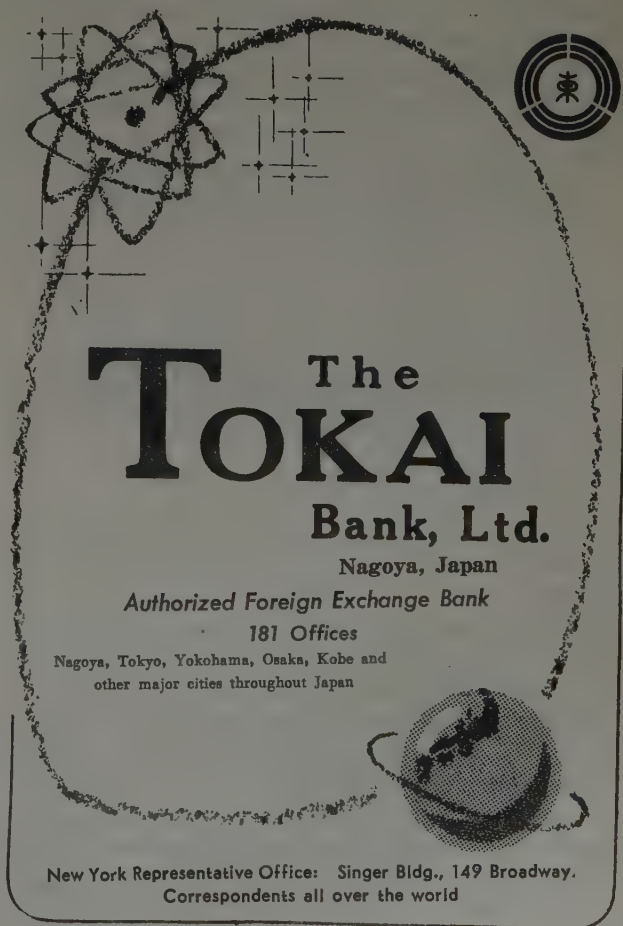
3. *Government Housing Corporation Dwellings.* these units are built by the Japan Housing Corporation. Since the public housing projects receive the heaviest aid from the government, while the H.F.P.B. borrowers tend to be individuals with a certain amount of means, the Japan Housing Corporation offers three distinctive benefits. The funds requirements of the Corporation are met not only by government disbursements, but by funds from local governments, long term funds from private sources, short term borrowings, and issue of housing debentures. Second, the utilizers of Housing Corporation dwellings are of an income bracket higher than those seeking accommodation in public housing projects, yet unable to make good use of the loans offered by the H.F.P.B. Third, the public project dwellings tend to come under administrative subdivision limitations due to the fact that they are undertaken by local government. This is not so in the case of the Housing Corporation projects.

The Japan Housing Corporation was established in July 1955 by the enactment that month of the necessary legislation. As a general rule, the dwellings constructed by the Corporation are units in fire-proof, ferro-concrete buildings of not less than three storeys; and the average size of a unit is 14 *Tsubo*. Units are available for both purchase and rent, the charge for the latter being about ¥4,800 per month. Applicants for Corporation housing rental outnumber vacancies 10 to 1 in the Tokyo area. As for units placed on sale by the Corporation, the terms of payment are such that ¥10,000 per month must be paid for the first six years, so the demand is not as high as was originally anticipated. Construction by the Corporation in fiscal 1957-58 will involve 35,000 units at a total cost of some ¥36,500 million. Of this amount, ¥9,500 million will be disbursed from the Budget General Account, ¥12,000 million will come from the Industrial Investment Special Account, and ¥15,000 million will be put up by life insurance companies.

4. *Other Government Housing.* Besides the above housing projects financed by the government, the state is undertaking the construction of housing for government employees, for personnel on reclamation projects, and for repatriates. The total number scheduled for fiscal 1957-58 stands at 30,000 units.

It will be noted from the above summary of government housing projects that while Housing Finance Public Bank and Housing Corporation units have been increasing considerably over the 1956-57 level, the number of public project units, the best suited to satisfy the needs of the masses, has not been increased. Consequently, there is some doubt as to whether the Government can eliminate the housing shortage as it plans to by the end of fiscal 1962-63.

Quite apart from the government-supported construction projects, there has been going on a considerable amount of private building. After the completion of temporary shacks and shelters in the bombed-out cities around about 1950, there was for some time a lull in private construction of dwellings. However, from 1955 on, with the general recovery of economic strength, there was a phenomenal upsurge in building (Cf. Table 1). The Government from fiscal 1952-53, in order to encourage private construction, undertook abatement of national and local taxes on dwellings. From fiscal 1955-56, further slashes were made in taxes, while a loan guarantee system, such as is practised in the United States, was inaugurated for housing credits. Under this system, any financial institution suffering losses from building loans is entitled to 80-percent coverage by the Housing Finance Public Bank. However, because the interest charged by the banks is in no way specially low, the loans for building aggregate only some ¥1,000 million to date.



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Commodity Supply

THE Japanese economy, from 1955 through 1956, underwent phenomenal development, particularly in manufacturing and mining. According to statistical indices compiled by the Ministry of International Trade and Industry (MITI), the level of industrial (mining and manufacturing) production in 1956 rose more than 21 percent above that of 1955. Such rate of gain would not be surprising were Japan recovering from some setback, as was the case immediately after the war. But since this progress was achieved under normal circumstances it can indeed be termed phenomenal.

MITI statistics show that during the twelve months ended with September 1956 there was a 22 percent gain in overall production capacity. By comparing this rate against the rise, by 14 percent, during the eighteen months ended with September 1955, it can be readily understood how rapid was the expansion of industrial capacity since the last quarter of 1955.

Moreover, the supply of industrial raw materials was maintained at a level surpassing that of production (requirements). Raw materials inventories during the eleven months ended with November 1956 stood, on the average, at more than 24 percent higher than during the same months of 1955; and special note must be made of the fact that imported raw materials inventories rose at a rate exceeding 30 percent. This was made possible by considerable boosts in importation of scrap iron, iron ore, raw cotton, petroleum, and other essential materials.

1. INDUSTRIAL RAW MATERIALS INVENTORIES INDICES GAINS
(IN PERCENTAGES) OVER THE SAME PERIOD OF THE
PRECEDING YEAR

	January-February 1956	November 1956
Raw Materials Consumption.....	21.8%	25.6%
Raw Materials Inventories.....	23.7	44.0
Raw Materials Inventories-to- Requirements Ratio	1.6	14.7
Imported Materials Consumption.....	28.7	33.6
Imported Materials Inventories.....	30.9	63.8
Imported Materials Inventories-to- Requirements Ratio	1.7	22.7

Source: Ministry of International Trade and Industry

In regard to the future supply-demand situation, there is a strong tendency toward the view that since there will be an inevitable leveling off of the growth of production, supply will tend to lag behind rising demand. It appears, however, that such generalized anticipation of shortages by comparison of expected overall supply and demand is not altogether justifiable. Already in 1956 there was noted a tendency toward overproduction of consumer items and insufficiency in output of producer items, particularly key industrial goods. It must be assumed that this basic trend will continue to manifest itself for some time to come.

This prediction will, of course, have to be modified since other more basic forecasts, such as those covering requirements, have since changed. Nevertheless, it is undeniable that capacity surpluses will definitely appear. Already, the situation indicates over-production of rayon staple, while the view prevails that cutbacks in cotton spinning output will also have to be made fairly soon.

Even with producer items, surpluses are predicted in not a few instances. A prime example is sulphur. Whereas last year there was a shortage (20,000 tons had to be imported), overproduction is foreseen with the opening of new mining operations. Another item tending toward oversupply is ammonium sulphate, and the development of overseas markets for this product has become a pressing problem.

However, the tendency toward overproduction of producer items is as yet far from widespread. Take electrolytic copper or aluminum for example, not only is there little or no possibility of allocating capacity for export production, it now appears that it will be necessary as in fiscal 1956-57 to undertake stopgap importation of these items.

Coke, which is in high demand due to the rising requirements of the steel and machinery industries, must also be imported. The plan is to bring in some 70,000 tons before the end of fiscal 1956-57, and it is said that some 200,000 tons will have to be imported during fiscal 1957-58. Because of this shortage of coke (and electric power), production of carbide has not gone up as scheduled. MITI had planned on an output of 950,000 tons for fiscal 1957-58, but this goal has had to be reduced by 50,000 tons.

The biggest effect on industry as a whole will be that brought about by the so-called bottleneck segments—iron and steel, electricity, and transportation; and added to these will be such fuels as coal and petroleum.

However, the shortages of steel and electricity have not been as bad as had been feared in autumn 1956; and the effect on production has not been too noticeable. There are, of course, definite reasons for this easing of tension: for one thing, export of steel products was held back by self-imposed curbs, emergency importation of steel (480,000 tons up to the end of fiscal 1956-57) had a cooling effect on the market, while the importation of scrap iron progressed far better than had been expected.

As for electricity, investment in transmission facilities has paid off; and in addition to the reduction of losses in distribution, the abundance of water during 1956 prevented the situation from becoming really serious. There was, subsequently, the unusual dry spell early this year, which brought about legally enforced restrictions on the use of electricity in the

Tohoku and Hokuriku areas until the end of January; but this was due to a vagary of the weather.

2. ANTICIPATED GAINS IN MINING AND MANUFACTURING PRODUCTION

(Comparison in percentages with the preceding fiscal year)

	Fiscal 1956-57	Fiscal 1957-58
Mining and Manufacturing	21.0%	12.5%
Mining	13.6	7.9
Manufacturing.....	21.6	12.8
Processed Foods.....	1.5	5.8
Textiles.....	15.3	6.1
Printing	10.3	10.8
Chemicals.....	15.1	10.9
Rubber Products	23.0	9.1
Lumbermilling	15.0	2.4
Refractories.....	19.4	11.6
Metals	19.9	10.6
Machinery	58.5	27.0

Source: Commodities Adjustment Section, MITI

On the other hand, the transportation bottleneck, with the railroad system particularly overloaded, is becoming truly critical. The goods held up in transit in January (average figure) at freight depots and other stations came to 1.9 million tons, some 270 percent of the average level of January 1956. And to make matters worse, there is little or no likelihood of the situation becoming better in the near future. According to estimates made by the Japanese National Railways, the total freight haulage requirement in fiscal 1956-57 will come to 180 million tons, some 5 percent more than in the preceding fiscal year. Capacity, however, is barely enough to handle 176 million tons; so there will result a deficit in capacity of some 4 million tons.

Although the JNR is undertaking a five-year plan costing ¥502,000 million from fiscal 1957-58 to increase freight and passenger capacity respectively by 25 percent and 30 percent, the boost in capacity will not be achieved overnight. How to meet the immediate rush therefore constitutes a serious problem.

The iron and steel industry, because of growing demands, has plunged into investment for its second round of facilities expansion and improvement (for fiscal 1956-57, an estimated ¥60,300 million). But for this spending to yield substantial returns, one must wait for at least two or three years.

Nevertheless, the problem as always, is to maintain supply of raw materials to keep up with demand for products. MITI estimates that production of ordinary steel in fiscal 1957-58 should be 9.15 million tons (fiscal 1956-57 target, 8.43 million tons). while blast furnace pig iron should reach 6.7 million tons (fiscal 1956-57 target, 5.9 million tons). To meet this expected increase in output, it will be necessary to up the import levels of iron ore, coking coal, and scrap iron respectively by 1.2 million, 600,000, and 800,000 tons. However, it is reported that the United States is already giving us all the scrap it can afford to supply; while the purchase of iron ore and coal from the United States and Canada will result in higher costs.

The electric power situation also will not under-

go basic improvement in any short while. MITI estimates that power requirements in fiscal 1957-58 will go up 18 percent over the 1956-57 level. But since supply capacity will increase only 15 percent, there will be a deficit of some 1,600 million kilowatt-hours. Particularly hard hit will be the Tohoku and Hokuriku areas, and as a result there will be a curbing of production boosts in carbide, electric pig iron, ferro-alloys, aluminum, chemical fertilizer, and other items.

The shortage of electric power has brought to the forefront the problem of coal supply. Although it is anticipated that some 52 million tons of coal will be produced in fiscal 1957-58 (48.5 million tons in fiscal 1956-57), with the bigger operators completing their arrangements for increasing output, it will still be necessary to import about a million tons of non-coking coal for general (mainly thermal power generation) use.

Petroleum, the requirements for which have been increasing rapidly in recent years, is expected to meet with a 17 percent gain in demand in fiscal 1957-58. There is some question as to whether this increase can be met with adequate supplies of crude oil since tankers are currently in high demand. It may happen of course that the clearing of the Suez canal will ease the situation in an unexpected way.

In any event, the supply of energy will be the key factor determining whether or not the Japa-

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nese economy grows as scheduled in fiscal 1957-58. In order to keep the supply in balance with require-

ments, it will be necessary to depend heavily on imports of energy resources.

3 INCREASE IN PRODUCTION CAPACITY

	Whole	Iron & Steel	Non-ferrous metals	Lumber	Textiles	Paper & Pulp	Chemicals	Coal & Oil Products	Ceramics	Rubber
March, 1951....	116.8	117.9	107.1	110.5	123.5	104.3	109.7	149.2	110.4	100.0
March, 1952....	136.6	134.3	112.5	126.8	157.3	118.2	117.9	190.3	116.6	91.2
March, 1953....	149.1	139.1	130.0	143.4	175.4	142.8	124.3	226.1	126.7	86.9
March, 1954....	169.3	148.0	132.7	155.0	202.4	192.2	137.3	261.4	140.7	101.3
March, 1955....	183.5	148.0	134.9	175.5	227.3	211.9	145.7	305.9	158.5	101.3
Sept., 1955....	193.1	148.4	136.1	175.4	248.4	215.5	147.5	340.1	168.7	101.3
Dec., 1955....	211.1	170.2	136.1	197.2	272.2	227.7	154.0	409.5	171.8	101.3
March, 1956....	220.3	170.2	137.2	197.2	294.9	223.6	161.4	409.5	174.4	101.3
June, 1956....	229.1	171.0	152.6	204.6	305.4	249.8	161.9	453.8	190.3	100.7
Sept., 1956....	235.2	171.5	157.3	204.6	315.7	262.6	165.0	477.2	193.5	100.7

Source: Ministry of International Trade & Industry.

Mounting Machinery Orders

THE volume of orders for machinery has swollen immensely along with the rapid growth of the Japanese economy and the technological advances of recent years. The gain indicated by bank lendings from about last summer is mainly due to this heavy investment in capital equipment. Moreover, this investment in plant has resulted in notable growth of production.

According to the Ministry of International Trade and Industry, Japan's mining and manufacturing output went up 10.2 percent in 1955, as against the preceding year, and up 21.2 percent in 1956, as against the 1955 level (with manufacturing alone, the gains were respectively 11.4 percent and 22.5 percent). All products, ultimately, are taken up by the various areas of consumption shown in Table 1, so MITI has undertaken an analysis of the factors contributing to the growth of industrial (mining and manufacturing) production.

1. FACTORS CONTRIBUTING TO GROWTH OF PRODUCTION (percentages)

	1956	1955
Household Consumption	43%	34% (2)
Capital Goods Purchases	31	18 (3)
Export Sales, U.S. Procurement & Spending	22	39 (1)
Government Consumption	2	4 (5)
Inventory Build-Up	2	5 (4)

Note: Figures in parentheses denote ranking in 1955.

Source: MITI.

This study reveals that as against the boom of 1955, which was supported mainly by export trade, the high business activity of 1956 was stimulated by the growth of household spending, the direct result of the 1955 boom, and by heavy investment in capital equipment. Among the factors contributing to the rise of production, household consumption ranked foremost at 43 percent, while investment in capital goods accounted for 31 percent of the total. This latter gained by more than 70 percent over the level of 1955, while on the other hand, overseas demands (export sales and United States procurement and spendings) declined in figures from the 39 percent of 1955 to only 22 percent in 1956.

It will be seen that the investment in capital items in recent months has been stimulating the growth of production in no small way. Table 2 shows the figures covering orders for machinery, as compiled by the Economic Planning Board from data obtained from 55 major producers. The overall volume of machinery orders stood at a low point in the third quarter (July through September) of 1954; but there was a steady rise thereafter so that by the final quarter of 1956 a level 4.4 times as high was achieved (3.5 times, when ships are excluded).

Machinery sales, on the other hand, failed to make as much gain, rising in the interim only 53 percent (49 percent, excluding ships). Consequently, backlogs of orders have been mounting steadily: at yearend 1956, the overall backlog was five times that of the end of September 1954 (2.8 times, excluding ships).

The backlog amounted, at the end of December 1956, to 13.9 times the sales for that month; and even when ships are excluded the backlog to sales ratio was 9.7:1. As of the end of September 1954 the machinery orders backlog stood at 5.3 times the monthly average sales for the July-September quarter (5.7 times, excluding ships), so the change in circumstances is indeed remarkable.

Reviewing the wholesale prices for machinery during the period in question on the basis of the

2. SURVEY OF MACHINERY ORDERS

(Monthly averages for each quarter, in million yen)

Period	Private Requirements, Excluding Shipowners	All Requirements	Sales Volume	Orders Backlog
1954: 2nd Quarter....	8,000	20,800	21,200	147,300
3rd Quarter....	7,300	15,200	23,400	123,600
4th Quarter....	7,100	27,700	18,600	156,300
1955: 1st Quarter....	8,400	18,100	18,000	151,900
2nd Quarter....	8,600	23,100	20,000	176,300
3rd Quarter....	10,900	37,600	21,100	228,600
4th Quarter....	13,000	39,200	20,400	286,700
1956: 1st Quarter....	16,500	40,100	25,800	339,300
2nd Quarter....	20,300	54,000	30,100	426,300
3rd Quarter....	26,300	60,900	33,900	511,400
4th Quarter....	33,200	66,500	35,900	617,900

Note: "Orders Backlog" as of end of each quarter.

Source: Economic Planning Board.

Economic Planning Board Weekly Wholesale Price Indices (June 24, 1950=100), it is found that as against the 186.9 points registered at the start of 1954, the level was down at 180.4 at yearend. In 1955, the level rippled along the 180-point line up through July, but from August there began a decline which went as far as 175.2 at yearend.

Subsequently, in 1956, there occurred a rebound; and in March the price level had climbed beyond the 180-point mark. In September, the 190-point level was reached, with 196.7 points registered in December. Nevertheless, the spread between the high and the low amounted to only 11.9 percent, so on the whole the movement of machinery prices tended to be on the sluggish side.

As for the outlook on machinery orders, the results of an opinion poll taken on manufacturers in December to check on their expectations for the next three months were as given in Table 3.

3. MACHINERY SALES TREND FORECAST FOR FORTHCOMING QUARTER (December, 1956)

	Orders Volume	Orders Backlog	Sales Volume
Increase Expected.....	14 (10)	10 (7)	10 (9)
No Change Expected	11 (16)	10 (15)	12 (16)
Decrease Expected	3 (2)	— (1)	2 (2)

Note: Figures in parentheses, results for September 1956.

Source: Economic Planning Board.

It will be seen that whereas in September, the opinion "no change" was the strongest in connection with orders volume, orders backlog, and sales, the December results indicate a predominance of "increase expected" for orders, and "no change" for sales.

Of the ¥660,000 million worth of machinery orders received in 1956, 43 percent was for ships, 31 percent for external uses (mainly export), and 66 percent for domestic use (the ¥660,000 million figure includes agents' commissions).

Comparing the 1956 machinery orders volume with that of 1955 (Cf. Table 4), a gain of nearly 90 percent is noted. But the rate of increase of orders from external sources was low, at only 41 percent, as against the 126 percent increase in domestic requirements. Among the domestic orders, government and public sources were responsible for only 8 percent of the total volume, with a rate of gain of less than 50 percent, whereas private sources accounted for 58 percent of the total, with a rate of gain (as against 1955) of 146 percent (135 percent excluding ships).

Of the domestic private sources of machinery orders, the ship operators accounted for 25 percent, at three times the volume of 1955. This was the outcome of the shipping boom and the ability to award contracts without depending too heavily on borrowings. The next biggest source of orders was the electric power industry, responsible for about 20 percent of all domestic private requirements. Orders from this source rose to 2.5 times the 1955 volume.

The chemical industry, accounting for about 15 percent of all domestic private orders, also manifested a sharp increase of 2.7 times the 1955 volume.

4. MACHINERY ORDER VOLUME BY SOURCE (In ¥100 million)

	1955 (A)	1956 (B)	Comparison B/A (%)
Grand Total	3,543	6,647	188
(Excl. ships).....	1,884	3,812	202
External Sources	1,451	2,045	141
Domestic Sources	1,935	4,376	226
(Excl. shipping)	1,611	3,441	214
Government & Public	283	554	145
Private Source	1,552	3,822	246
(Excl. shipping)	1,227	2,886	235
Manufacturing	644	1,643	255
Textiles	149	337	226
Chemicals	212	581	274
Iron & Steel	100	368	368
Machinery	41	102	249
Shipbuilding	29	53	183
Other	113	201	178
Non-Manufacturing	908	2,178	240
(Excl. shipping)	583	1,243	213
Transportation	373	1,043	280
(shipping)	325	935	288
Electric Power	305	750	246
Coal Mining	30	54	180
Agriculture, Forestry, Fishery	71	102	143
Other	129	229	178
Orders Backlog.....	2,867	6,179	216
(Excl. ships).....	1,129	2,758	244
Sales Volume	2,381	3,774	159
(Excl. ships).....	1,875	2,664	142

Note: Grand Total includes agency commissions and charges.

Iron and steel manufacturers, responsible for about 10 percent, went even further with about 3.7 times the 1955 level.

The volume of machinery orders from these key industries rose notably since the second half of 1956. On the other hand, a reverse trend is indicated elsewhere. For instance, although the textile industry, rushing to expand, ordered 2.3 times the 1955 volume, and thus accounted for 9 percent of all domestic private requirements, this buying was at peak around about April through June, with subsequent decline. The machinery makers too have eased off buying since the October-December quarter. This is due in part to importation of machinery and to machinery making for own use.

5. MACHINERY ORDERS AND SALES BY ITEM (December 1956, in ¥100 million)

	Orders Received	Orders Backlog (A)	Sales (B)	A/B (%)
Prime Movers	142	858	48	17.9
Heavy Electrical Machinery ..	148	765	79	9.7
Communications Equipment ..	30	93	25	3.7
Industrial Machinery	173	873	105	8.3
Machine Tools.....	9	45	4	11.3
Rolling Stock	20	124	23	5.4
Ships	214	3,422	159	21.5
Total	735	6,179	444	13.9
Steel Structures	27	111	17	6.5
Bearings.....	20	51	19	2.7
Electric Wire & Cable	92	157	70	2.2

Machinery orders volume in 1956 was thus high, but sales volume gained only 60 percent (40 percent, excluding ships) over 1955. Consequently, the orders backlog has mounted, particularly in connection with orders received in the second half of 1956. As of the end of 1956, the machinery orders backlog level stood at 2.2 times that of a year before (2.4 times when ships are excluded). The machinery makers, on the whole, are not eager to accept orders because of the high volume of orders on hand, and because of some anxiety over material supplies. The fact that the backlog orders has become so big despite this reluctance goes to show how strong is the propensity to invest in capital equipment.

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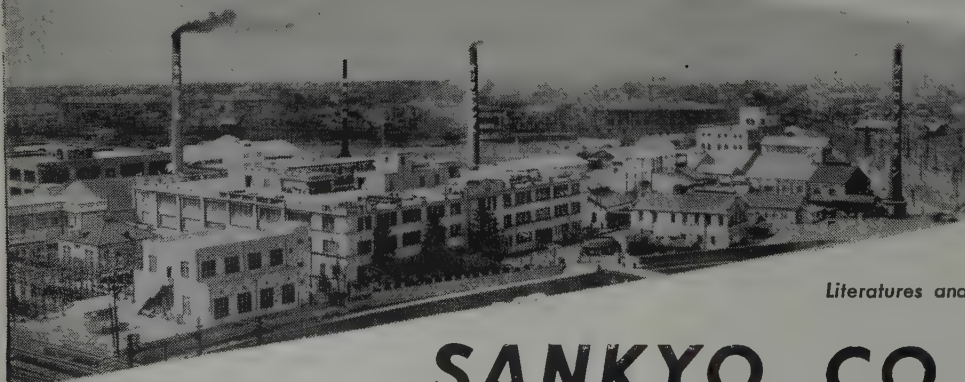
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Industry

Pharmaceuticals

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Antibiotics, Vitamins & Sulfa Drugs

In 1952, antibiotics were produced at the rate of about ¥800 million a month. Monthly turnout rose to ¥1,000-million mark from 1953 through 1954, but it has been somewhat stagnant since 1955.

Of the total antibiotics production in 1952, penicillin accounted for as much as 44%. Owing to the price drop plus the growing inroads of new antibiotics, such as chloramphenicol and chlortetracycline, however, its share gradually shrank: i.e. 28% in 1953, 26% in 1954 and 22% in 1955. Output quantity was: 7.8 trillion units in 1950, 14.6 trillion units in 1951, 26.7 trillion units in 1952, 41.9 trillion units in 1953, 57.3 trillion units in 1954, 54.6 trillion units in 1955 and 24.1 trillion units from January through June, 1956.

Streptomycin comprised 35% of the total antibiotics production in 1952, and the share advanced to 42% in 1953. It was halved to 21% in 1954 as the price steeply fell off. But it again rallied to 27% in 1955 and to 29% in 1956. Inclusive of dihydrostreptomycin, output volume has been on the steady gain since production was finally started on a substantial scale in 1953: 114 kg. in 1950, 2,063 kg. in 1951, 6,914 kg. in 1952, 29,278 kg. in 1953, 31,727 kg. in 1954 and 36,844 kg. in 1955. In 1950, streptomycin was officially quoted at ¥640 per gr., but the price was reduced to ¥245 in 1953, ¥120 in 1955 and to ¥140 in the first half of 1956.

1. PHARMACEUTICAL PRODUCTION

Year	Output Value (¥1,000,000)	Production Index ('48 =100)	Compared with Previous Year (%)
1945	335	31.0	—
1946	1,872	29.0	559
1947	5,176	52.0	276
1948	17,902	100.0	346
1949	31,031	140.0	173
1950	31,916	164.0	103
1951	42,376	258.0	133
1952	58,564	355.0	138
1953	75,847	431.6	129
1954	78,468	542.5	104
1955	87,466	661.7	111
1956 (Jan.-June)	48,870	753.6	112

Source: Ministry of Welfare.

Since 1953, a number of new antibiotics, efficacious against a wider variety of germs and virus, have been made and marketed in increasing quantity. In Japan, Chloromycetin was first produced in 1953 and Aureomycin in 1954. Then, Terramycin, Paraxin, Kemicitin, etc. were made by local firms through technical cooperation with foreign interests (see Table 6). Thus, the share of these new antibiotics rose from 15% in 1952 to 18% in 1953, 34% in 1954, 38% in 1955 and well over 40% in 1956. The wholesale price of chloramphenicol, for instance, stood at

as high as ¥1,060 per gr. in 1951, but it dropped to ¥914 (imported) and ¥633 (home-made) in 1952, ¥926 and ¥633 in 1953, ¥619 in 1954, and as low as ¥390 in 1956. The current price is off 60% from 1951. Aureomycin, quoted at ¥877 per gr. in 1951, experienced a similar price fall: namely, ¥761 in 1952, ¥775 in 1953, ¥615 in 1954 and ¥420 in 1955, or off 50% from 1951. The same was the case with Terramycin: ¥855 per gr. in 1951, ¥769 in 1952, ¥765 in 1953, ¥593 in 1954 and ¥400 in 1955.

2. PHARMACEUTICAL PRODUCTION BY VARIETY

	1955		1956 (Jan.-June)	
	Value (In ¥1,000,000)	% of Total	Value	% of Total
Antibiotics	11,942	13.65	5,699	11.66
Medicines for External Application	11,730	13.41	6,986	14.29
Vitamins	10,678	12.21	5,883	12.04
Medicines for Nervous System	8,853	10.12	4,937	10.10
Medicines for Digestive Organs	7,663	8.76	4,269	8.74
Chemitherapeutic Agents	7,127	8.15	3,460	7.08
Medicines for Circulatory & Respiratory Organs	5,581	6.38	2,776	5.68
Medicines for Public Health & Hygiene	5,029	5.75	4,358	8.92
Nutrients & Tonics	3,732	4.27	1,723	3.53
Hormones	2,403	2.75	1,439	2.94
Allergy Medicines	2,272	2.60	853	1.75
Parasitocides	2,080	2.38	1,055	2.16
Other Metabolic Medicines	2,044	2.34	1,476	3.02
Biological Medicines	1,316	1.50	1,037	2.12
Medicines for Sensory Organs	1,188	1.36	873	1.79
Medicines for Urinary & Generative Organs and Anus	886	1.01	503	1.03
Other Remedial Agents	826	0.94	294	0.60
Medicines for Blood & Tumors	574	0.66	327	0.67
Preparation Agents	553	0.63	311	0.64
Anaesthetics	471	0.54	296	0.60
Agents for Diagnosis	259	0.30	127	0.26
Others	258	0.29	189	0.38
Total	87,466	100	48,870	100

Source: Ministry of Welfare.

Up to 1952, B₁ had comprised as much as 41% of the total vitamin production, while on the other hand complex and compound vitamins accounted for not more than 18% and 15%, respectively. In the following years, the former's share gradually contracted in contrast to the continuous advance of the latter's. As a result, the 1955 percentage was 27.6% for B₁ and 38.9% for compound vitamin. It is mainly due to the rapid increase of compound vitamin production that vitamin output as a whole has been growing annually by over ¥1 billion in the past three years.

Among the medicines for external application, anodynes and itch remedies comprise the largest portion, followed by organic disinfectants, suppurative germ killers, hair tonics and skin softeners in the order named. Particularly remarkable is the recent production boost of hair tonics and parasitic skin disease remedies.

In the case of medicines for the central and peripheral nervous systems, anti-epileptic-anodynes constitute nearly 60% of the total turnout, and narcotic-sedatives come next with 14%. New drugs for the autonomic nervous system were marketed one after another from 1953 through 1954, and *chlorpromadine* was put on sale in 1955. And their sales have been very active.

On the list of chemitherapeutic agents, sulfa drugs and TB remedies are two important items. The latter in particular have been gaining in importance

in the past few years. As for sulfa drugs, production volume has been climbing up: namely, 195 mt. in 1950, 319 mt. in 1951, 272 mt. in 1952, 289 mt. in 1953, 314 mt. in 1954 and 389 mt. in 1955. Though it got stagnant during 1952-53 due to the inroads of penicillin, the production curve again turned upward sharply during 1954-55 thanks to the successful marketing of such high-grade medicines as sulfaisoxazol and *sulfaisomidine*.

In 1950, PAS (sodium paraaminosalicylate) output totalled not more than 9 mt., but it increased by leaps and bounds, particularly after 1954: i.e. 345 mt. in 1951, 389 mt. in 1952, 539 mt. in 1953, 804 mt. in 1954, and 1,660 mt. in 1955. The price index, computed with 1953 as 100, steeply declined to 43 in the first half of 1956 from 1950's 566.

Production has been rising also for hormones, particularly for female, male, suprarenal and adrenocorticotrophic hormones. Cortisone and its derivatives, too, are selling well, greatly stimulating suprarenal hormone sales.

Japan Buys More Medicines than It Sells

From 1950 to 1956, pharmaceutical exports increased nearly six times, whereas production showed a three-fold gain, as shown in Table 4. For all this, overseas sales still comprise a very small portion of the total output: for instance, only 3.4% in 1955.

Of the ¥3-billion outgoings in 1955, vitamins accounted for ¥1,228 million, or 41%, and antibiotics and sulfa drugs each comprised ¥300 million, or 10%. These three combined accounted for more than 60%.

Especially remarkable is the recent briskness of vitamin exports. In 1951, shipments aggregated not more than ¥26 million, but the figure rapidly climbed up to ¥134 million in 1952, ¥287 million in 1953, ¥942 million in 1954 and ¥1,228 million in 1955. Of this total, vitamin B₁ represented over 80%, and

vitamin C came next.

Good-selling antibiotics are streptomycin, penicillin, chlortetracycline, trichomycin and sarkomycin. Penicillin sales are getting dull. Other promising items are medicines for digestive organs, Jintan, peptone and hemoglobin.

Though on the downgrade since 1953, imports far exceed the ¥3-billion mark as may be noted in Table 5. In 1952, when imports got brisk on a private basis, 84% of the total purchases came from the United States, and her share remained on the same level or 84.4%, in the following year. Medicine purchases from that country have been declining along with the progress of technical cooperation between Japanese and American firms for local production of new antibiotics, sulfa drugs and others. But Japan is still much dependent upon the United States.

3. PHARMACEUTICAL PRODUCTION & EXPORTS

(In ¥1,000,000)

	Production		Exports	
	Value	Index	Value	Index
1950	31,916	100	514	100
1951	42,376	133	1,082	211
1952	58,564	184	1,405	312
1953	75,647	237	2,165	421
1954	78,468	246	3,267	636
1955	87,465	274	3,001	584
1956 (Jan.-June)	48,870	306	1,647	641

Source: Ministry of Welfare.

Antibiotics are by far the biggest import item. Their imports in 1951 reached ¥1,557 million, or 72.7% of the total pharmaceutical purchases; ¥2,063 million, or 61.5%, in 1952; ¥2,266 million, or 55%, in 1953; ¥1,540 million, or 42.8%, in 1954; and ¥839 million, or 23.8%, in 1955.

Technical Tieup Between Japanese & Foreign Firms

One of the most noticeable events in the pharmaceutical industry since the war's end is the increasing technical cooperation between Japanese and

4. NEW MEDICINES MADE BY TECHNICAL COOPERATION WITH FOREIGN FIRMS

Name of Medicine (brand in brackets)	Date of Contract	Term (year)	Japanese Firms—Foreign Firms
Antibiotics			
Oil Procaine Penicillin	Mar., 1953	15	Ban-yu Seiyaku—Bristol Laboratories, Inc. (USA)
Streptomycin	Apr., 1951	15	Kyowa Fermentation & Meiji Seika—Merck & Co., Inc. (USA)
Chloramphenicol (Chloromycetin)	July, 1951	15	Sankyo—Parke Davis & Co. (USA)
Chloramphenicol (Paraxin)	Aug., 1954	10	Yamanouchi—C.F. Bohrerger und Sohne GmbH (German)
Chlortetracycline (Aureomycin)	May, 1953	15	Japan Lederle—American Cyanamid Co. (USA)
Oxytetracycline (Terramycin)	Mar., 1953	15	Taito Pfizer—Pfizer Corp. (Panama)
Tetracycline (Achromycin)	Mar., 1953	15	Japan Lederle—American Cyanamid Co. (USA)
Tetracycline (Tetracycl)	Mar., 1954	15	Taito Pfizer—Pfizer Corp. (Panama)
Tetracycline (Bristocycline)	Dec., 1955	14 1/3	Ban-yu Seiyaku—Bristol Laboratories, Inc. (USA)
Penicillin Aminoester (Leocillin)	Mar., 1954	5	Sankyo—Lovens Kemiske Fabrik (Danish)
Dipenicillin (Bicillin)	Mar., 1953	15	Ban-yu Seiyaku—Wyeth International, Ltd. (USA)
Sulfa Drugs			
Sulfathiazole (Sulzol)	Jan., 1951	5	Takeda Pharmaceutical Ind.—Ciba, Ltd. (Swiss)
Sulfaisoxazole (Thiasin)	June, 1951	15	Yamanouchi Pharmaceutical—Sapac Corp. (USA)
Sulfaisoxazole (Sulfazin)	June, 1951	15	Shionogi—Sapac Corp. (USA)
Sulfaisomidine (Elkosin)	Mar., 1953	5	Ciba Seihin—Ciba, Ltd. (Swiss)
6-sulfanilamide-3,4-dimethylbenzamide (Irgafen)	Apr., 1953	2 2/3	Fujisawa Pharmaceutical—J.R. Geigy, S.A. (Swiss)
Suprarenal Medicines			
Cortisone & Hydro-Cortisone	July, 1954	15	Japan Merck Ban-yu—Merck & Co., Inc. (USA)
Prednisone (Predonine)	Apr., 1956	15	Shionogi—Schering Corp. (USA)
Prednisone & Prednisone (Delta Cortone & Codel Cortone)	July, 1956	15	Japan Merck Ban-yu—Merck & Co., Inc. (USA)
Others			
Chlorophenotan (DDT)	Jan., 1951	9	Nichizui Trading—J.R. Geigy, S.A. (Swiss)
Water-soluble Vitamin	Sept., 1952	5	Takeda Pharmaceutical—U.S. Vitamin Corp. (USA)
Phenylbutazone (Irgapyrin)	Apr., 1953	2 2/3	Fujisawa Pharmaceutical—J.R. Geigy, S.A. (Swiss)
Chlorpromazine & Promethazine (Wintermin & Pyrethagine)	Sept., 1955	13 2/3	Shionogi—Societe des Usines Chimiques (French)
Dextromethorphanhydro bromide (Medicon) ..	May, 1956	14 1/3	Shionogi—Sapac Corp. (USA)
Pyribenzamine	Mar., 1953	5	Ciba Seihin—Ciba, Ltd. (Swiss)
Apresoline	Mar., 1953	5	Ciba Seihin—Ciba, Ltd. (Swiss)
Pendiomid	Mar., 1953	5	Ciba Seihin—Ciba, Ltd. (Swiss)
Antistine	Mar., 1953	5	Ciba Seihin—Ciba, Ltd. (Swiss)
Natrumglucuronate-isonicotinylhydrazone (Hydronsan)	Oct., 1956	5	Chugai Pharmaceutical—Consortium de Produits Chimiques & De Synthese (French)

Source: Institute of Pharmaceutical Industry.

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Tranquilizer (Meprobamate)

Antibiotics (Penicillin & Streptomycin)

Anti-tuberculosis Drug (IHMS, INAH, PAS calcium, TB₁)

Vitamin Preparations (Vitamin C, V.B₁ V.B₂ V.B₆ Multi-Vitamins)

Rutin Preparations, Photographic Agents for X-Ray,

Acrinol, Aminopyrine, Barbital, Epinephrine HCL,

Glucose, etc.

☆ *Industrial Chemicals* ☆

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(Mordant) etc.

☆ *Diagnostic Reagents* ☆

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foreign companies for local production of new medicines. The importance of these arrangements can well be inferred from the fact that medicines made through such technical tieups are estimated to comprise 25% or so of the total pharmaceutical production. It is also to be noted that royalties due to foreign patent holders are estimated at about \$1.6 million a year.

Besides, there are some cases of financial cooperation in the form of direct investments or loans. In the former case, foreign investors get shares in Japanese pharmaceutical companies and take active part in management of these firms. There are four such joint establishments: i.e. Taito-Pfizer, a successor to the former Pfizer-Tanabe; Japan Lederle, jointly set up by Takeda Pharmaceutical Industry and American Cyanamid; Japan Merck Ban-yu, a joint enterprise by Ban-yu Seiyaku and Merck & Co.; and Ciba Seihin established with the yen fund held by Ciba, Ltd., a Swiss firm. Capital these firms have called in amounts to ¥360 million.

Trichomycin claims special attention, for it was discovered in 1951 by Dr. Hosoya, professor emeritus of Tokyo University, and made on an industrial scale in 1954 by Fujisawa Pharmaceutical Co., whereas all other antibiotics are being produced through technical cooperation with foreign patent holders. Moreover, it is the most efficacious remedy for the candidiasis frequently caused by the reckless use of other antibiotics, and it also acts very well on Leucorrhoea, water eczema and other Protozoa. Thus, it is being exported to 25 countries abroad, including Norway, Sweden, Denmark, Finland, Switzerland and Portugal. Business talks now are under way for sales to Italy, England and Latin American countries.

Takeda Pharmaceutical Industries

This is the biggest pharmaceutical company both in name and in reality, and its history dates back to as early as 1783. Its head office located at Dosho-machi, Osaka, the company controls a nation-wide network of agents and retailers. Working at its offices and plants are as many as 5,550 employees. Capitalized at ¥2,100 million, it sold ¥14,600 million worth of medicines and earned a profit of ¥1,250 million, paying a dividend of 15% per annum, from October, 1955, through September, 1956. In the six-month term ending with March, 1957, its sales turnover and profit are estimated to amount to ¥8,000 and ¥700 million, respectively.

The company has successfully improved the composition of assets, liabilities and net worth. As of September 30, 1956, cash and deposits totalled ¥2,000 million, credit sales ¥6,300 million, inventory ¥2,900 million, fixed assets ¥3,700 million and investments ¥500 million, or a combined total of ¥15,400 million on the side of assets. On the debit side, current liabilities (bills payable, short-term debts, etc.) came at ¥6,800 million, fixed liabilities (debentures, long-term debts, etc.) at ¥2,100 million, earmarked funds (for allowance, price fluctuation, bad loans, etc.) at ¥1,100 million, and net worth at ¥5,400 million.

Of the total sales, vitamins comprise nearly 40%. Other products are antibiotics, biological medicines, chemitherapeutic agents, medicines for digestive organs, and hormones in the order of importance.

Efforts are recently being concentrated on greater production and exportation of vitamin B₁, B₃ and C, and plans are under way to make an entry into the field of agricultural medicines.

Technically cooperating with this firm are such foreign interests as American Cyanamid Co., Ciba, Ltd., and U.S. Vitamin Corp.

Sankyo & Co.

Located in Tokyo, this company is widely known as Sankyo of the East compared with Takeda of the West. Its president, Mr. Mampei Suzuki, is a member of the House of Councillors. It is about half the scale of Takeda in many respects: i.e. employees at 2,900, authorized capital at ¥780 million, sales turnover at ¥7,860 million, profits at ¥587 million and the dividend rate at 25% (in the same 12-month period). In the last business term closing with March, 1957, the company will declare a 20% dividend, with its sales and profits estimated at ¥4,300 and ¥360 million, respectively.

On the side of assets (as of September 30, 1956), cash and deposits aggregated ¥2,300 million, credit sales ¥3,000 million, inventory ¥2,200 million, fixed assets ¥2,300 million and investments ¥300 million, or a grand total of ¥10,000 million. This was balanced with the current and fixed liabilities of ¥5,400 and ¥630 million, respectively, the earmarked funds of ¥1,257 million and the net worth of ¥2,800 million.

The company's recent prosperity is ascribed, for the most part, to the technical cooperation with Parke Davis & Co. for local production of Chloromycetin. Of the total sales in 1956, antibiotics accounted for as much as 32%, and chemitherapeutic agents and vitamins each comprised over 10%. It is also noteworthy that agricultural medicines represented 25%. Production capacity will further be boosted for Chloromycetin and agricultural medicines, and this will greatly contribute to the betterment of business conditions.

Shionogi & Co.

Located on the same street as Takeda or Dosho-machi, Osaka, the company is capitalized at ¥720 million and employs 2,500 men and women. In scale, it favorably compares with Sankyo: from October, 1955 to September, 1956, it sold ¥6,880 million worth of products and reaped a profit of ¥345 million, paying a 12% dividend. But its business appears to be stagnant in contrast to the successful advance of Sankyo. In the six-month term terminating with March, 1957, its sales and profits are estimated at ¥4,000 and ¥200 million, respectively, with the dividend at 12% a year.

A study of assets and liabilities reveals that the ratio of credit sales is too big for this firm compared with that of Takeda and Sankyo, and that its net worth is relatively small. The figures as of September 30, 1956, were: i.e. ¥486 million for cash and deposits, ¥2,257 million for credit sales, ¥1,740 million for inventory, ¥862 million for fixed assets and ¥266 million for investments, totalling ¥5,320 million; and ¥2,928 million for current liabilities, ¥593 million for fixed liabilities, ¥177 million for earmarked funds, and ¥1,621 million for net worth.

Tooth-powder comprises 30% of the total sales, but the available profit is rather small as a large amount of products made by other firms are also handled. Major products are vitamins and hormones,

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Daiichi Seiyaku

Located in Tokyo, the company has 1,720 employees and is capitalized at ¥400 million. Its yearly sales and profits came at ¥3,340 and ¥315 million, respectively, the dividend declared at 20%, from October, 1955, to September, 1956. The rate of profit is higher than that of the afore-mentioned three firms mainly because the company is putting emphasis on the marketing of its own products. For the last half-year term (ending with March, 1957), sales and profits are estimated at ¥1,800 and ¥170 million, respectively, the dividend at 20% as in the past terms.

As of September 30, 1956, cash and deposits totalled ¥330 million, credit sales ¥1,100 million, inventory ¥544 million, fixed assets ¥494 million, and investments ¥40 million, or a combined total of ¥2,430 million. On the other hand, current liabilities came at ¥1,240 million, earmarked funds at ¥200 million, and net worth at ¥1,000 million. The ratio of net worth was relatively high.

Originally established for production of high-grade medicines, the company still is not so much distributors as producers. And it is noteworthy that direct sales to practitioners and hospitals represent as much as 60% of the total turnover. Of the total sales, chemitherapeutic agents (sulfa drugs in particular) and antibiotics combined accounted for 40%, medicines for the nervous system and circulatory organs for 23%, vitamins for 13%. Production efforts now are being concentrated on vitamin C and bleaching agent. Overseas sales comprise nearly 10% of the total delivery.

Gohei Tanabe & Co.

This firm, together with Takeda and Shionogi, are popularly known as the three families of Doshomachi, Osaka. Its history dates back more than two centuries ago, or 1717. But its business is not too encouraging of late. With 1,740 employees, it is capitalized at ¥524 million.

From November, 1955, to October, 1956, annual sales and profits reached ¥3,410 and ¥144 million, respectively. In the six-month term expiring with October, 1956, the company managed to declare a 8% dividend after an interval of five terms. Business conditions will further improve in the current term (up to April, 1957).

As of October 31, 1956, cash and deposits came at ¥440 million, credit sales at ¥1,154 million, inventory at ¥707 million, other current assets at ¥187 million, fixed assets at ¥680 million, and investments at ¥146 million, or a total of ¥3,311 million; and current liabilities at ¥1,737 million, fixed liabilities at ¥212 million, earmarked funds at ¥200 million, and net worth at ¥1,162 million.

Of the total sales, products of its own occupy over 70% and manufactures of other firms about 30%. PAS is by far the most important product: it formerly accounted for 50-60% of the total sales, but it now represents a little more than 20%. On the other hand, sales are growing for such new medicines as Neston (methionine preparations), Anona (hemostatic), Ravona (pentobarbital calcium) and Bena (antihistamine).

Dainippon Pharmaceutical

Capitalized at ¥440 million, this is again one of the pharmaceutical firms located at Doshomachi, Osaka. Its employees number 1,160. From December, 1955, to November, 1956, sales amounted to ¥2,670 million and profits to ¥280 million, the dividend at 15% (cut from 18% in the preceding term due to the capital boost). As it celebrates its 60th anniversary, the company will declare a 20% dividend (including a memorial dividend of 5%) in the current term.

Assets as of November, 1956, totalled ¥2,514 million, of which cash and deposits comprised ¥284 million, credit sales ¥1,236 million, inventory and other assets ¥583 million, fixed assets ¥361 million and investments ¥50 million. Liabilities were broken down as follows: ¥928 for current liabilities, ¥359 million for earmarked funds, and ¥1,227 million for net worth.

Like Daiichi Seiyaku, the company is concentrating sales efforts on its own products, particularly high-grade medicines. In the business term ending with November, 1956, chemitherapeutic agents and antibiotics combined occupied 23% of the total turnover, medicines for respiratory organs 19%, circulatory organ medicines 11%, drugs for the nervous system 9%, and medicines for digestive organs 8%.

Fujisawa Pharmaceutical

This is again an Osaka firm located at Doshomachi, employing 1,260 workers and capitalized at ¥415 million. In a 12-month period from October, 1955, to September, 1956, sales reached ¥2,500 million and profits ¥238 million, the dividend rate at 20%. For the current six-month term (ending with March, 1957), the corresponding figures will be ¥1,350 and ¥135 million, respectively, with the dividend reduced to 18% due to the capital boost.

In terms of assets and net worth, the company is somewhat inferior to Dainippon Pharmaceutical. As of September 30, 1956, cash and deposits totalled ¥342 million, credit sales ¥1,198 million, inventory and other current assets ¥476 million, fixed assets ¥483 million, and investments ¥45 million, or a total of ¥2,544 million. On the other hand, current liabilities amounted to ¥1,500 million, fixed liabilities to ¥125 million, earmarked funds to ¥67 million, and net worth to ¥853 million.

Promising products are Irgapyrin for the nervous system (made through cooperation with J. R. Geigy), Trichomycin (a new antibiotic discovered and developed in Japan as explained at the outset of this survey), Kemicetin (the same antibiotic as Yamano-uchi's Paraxin) and Macnin (digenea extract).

Yamanouchi Pharmaceutical

This is a ¥300-million firm, located in Tokyo, with 840 employees. In the calendar year of 1956, it sold ¥2,167 million worth and netted ¥181 million, paying a 15% dividend.

Of the total sales, sulfa drugs took 30%, and Paraxin (the same antibiotic as Fujisawa's Kemicetin made through technical cooperation with C. F. Böhringer und Söhne GmbH) 15%. Thanks to the penicillin slump, sales got substantially brisk for sulfa drugs and Paraxin. With the progress of equipment expansion plans, business will further improve in the current term closing with June, 1957. It must be

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cited, however, that there has occurred a patent dispute between this firm and Sankyo concerning Paraxin which is the same antibiotic as the latter's Chloromycetin.

As of June 30, 1956, assets were broken down as follows: i.e. current assets at ¥1,539 million and fixed assets at ¥376 million, totalling ¥1,916 million (inclusive of others). Accounts on the debit side stood at ¥1,128 million for current liabilities, ¥147 million for fixed liabilities, ¥46 million for earmarked funds, and at ¥598 million for net worth.

Chugai Pharmaceutical

This is also a Tokyo firm, with 912 employees, capitalized at ¥600 million. From October, 1955, to September, 1956, it sold ¥2,220 million worth and netted ¥308 million, declaring a 20% dividend.

Guronsan, a new glucuronic preparation, has proved such a surprising success than business conditions as a whole are improving, and will improve, substantially. A new plant is now under construction for greater output of this medicine. In the business term closing with September, 1956, antidotes took 50% of the total sales, medicines for public health 22%, medicines for digestive organs 7%, medicines for the nerve-center 6%, and others 15%. *Hydronsan*, a new TB remedy, is also selling very well as Guronsan.

In the current term terminating with March, 1957, sales will reach ¥1,400 million, and profits ¥200 million (the dividend at 20%). In the following term, sales will further jump to ¥1,800 million.

As of September 30, 1956, current assets added up to ¥1,545 million and fixed assets ¥422 million, or a total of ¥1,967 million. Current liabilities aggregated ¥1,207 million, fixed liabilities ¥21 million, earmarked funds ¥68 million, and net worth ¥670 million. As authorized capital has later been increased to ¥600 million, net worth will grow steadily.

Teikoku Hormone Mfg.

Specializing in manufacture of hormones from animal intestines, the company is also marketing its products through Takeda's network of agents and retailers. Located in Tokyo, it is capitalized at ¥120 million, with 540 employees. From December, 1955, to November, 1956, sales reached ¥855 million and profits ¥170 million, with the dividend declared as high as 30%.

Of the total sales, female hormones occupy 44%, male hormones 27%, and other hormones 29%. The company has been reaping enormous profits from natural hormone production. But prospects now are not too bright because other firms have succeeded in making synthetic hormones. It is planning to import, and to produce at home in the long run, cortisone in cooperation with a Dutch firm, *Organon*.

The composition of assets and liabilities is exceptionally good. At the end of last September, assets totalled ¥975 million, of which ¥653 and ¥322 million were, respectively, for current and fixed assets. Current liabilities, on the other hand, came at ¥176 million, fixed liabilities at ¥6 million, earmarked funds at ¥194 million, and net worth at ¥598 million.

Nakamura-Taki Pharmaceutical

This is a ¥120-million firm, located in Tokyo, with 205 employees. It sold ¥344 million worth and netted ¥22 million, declaring a 10% dividend, in the

period from February, 1956, to January, 1957.

Waka-Matsu (medicine for bowels) had long been the most important product. Since 1956, however, the company has been importing and marketing new medicines of Schering Corp., such as Chlor-Trimeton (chlor-propenpyridamine maleate), Meticorten (re-donisone) and Sigmagen (rheumatism remedy). These imported drugs now come to comprise nearly 60% of the total sales.

As of July 31, 1956, assets summed up to ¥365 million, of which current assets accounted for ¥270 million and fixed assets ¥92 million. Current liabilities came at ¥174 million, earmarked funds at ¥19 million, fixed liabilities at ¥25 million, and net worth at ¥146 million. Because of the three-fold capital boost from ¥40 to ¥120 million, the composition of liabilities and net worth has improved substantially.

Meiji Seika

Capitalized at ¥840 million and with 1,445 employees, this is one of the biggest confectionery firms in Japan, and pharmaceuticals occupy less than 20% of the total sales. In the 12-month period from October, 1955, to November, 1956, sales added up to ¥9,820 million, of which medicines comprised only ¥1,784 million against ¥6,826 million for confectionery and ¥68 million for provisions. In the pharmaceutical field, major products are penicillin, streptomycin and Sarkomycin. Sales have been growing steadily for the latter two in contrast to the sharp contraction for penicillin.

Due to the increased sales of confectionery and provisions, business has markedly improved that a 20% dividend will be declared again in the term closing with March, 1957. The composition of assets and liabilities is far better than in the case of many other pharmaceutical firms. Assets amount to ¥5,000 million, of which ¥2,954 million is for current assets and ¥2,044 million for fixed assets. On the other hand, current and fixed liabilities stand at ¥1,895 and ¥38 million, respectively; earmarked funds at ¥294 million; and net worth at ¥2,571 million.

Kyowa Fermentation Industry

Based upon a multilateral management policy, the company is divided into four departments: namely, alcohol, spirits, industrial chemicals, and pharmaceuticals (mainly streptomycin). With 1,581 employees, it is capitalized at ¥1,399 million.

Annual sales are estimated at ¥7,500 million, of which medicines represent the smallest portion of ¥1,000 million among the four categories of products. The successful production of streptomycin has brought about big profits. The company has recently started making and marketing a new cancer remedy called "*Calcinoflin*". Streptomycin production in Japan is almost equally-divided between this firm and Meiji Seika, but the former's output is smaller than the latter's.

The company's attempt to make monosodium glutamate through the fermentation method is being watched with great interest. In this field, it is technically cooperating with Ajinomoto Co.

At the end of June, 1956, assets reached ¥8,485 million, of which ¥5,006 million was for current assets and ¥3,410 million for fixed assets. Current and fixed liabilities, on the other hand, came at ¥3,337 and ¥933 million, respectively; earmarked funds at ¥350 million; and net worth at ¥3,864 million,

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Nuclear Power and Japan's Energy Problem

By Taiji Kawamura

JAPAN's energy supply—past and future—is summarized in Figure 1. Figure 2 shows the past energy supply of the world. Comparison of the two charts explicitly shows how rapid has been Japan's progress rate, the nation's overwhelming dependence on hydro power and coal, and the fact that petroleum (almost entirely imported) will in the near future surpass hydro power and coal in importance.

The annual overall rate of gain in energy supply is 4.5 percent for Japan, as against the 2 percent for the world. In Japan's case, there has been a corresponding growth (at the rate of 4 percent per annum) of national income. This is the result of the 0.2 percent gain in output of the primary industries (farming, forestry, mining, etc.), the 6.5 percent gain in production of the secondary industries (manufacturing, etc.), and the 5 percent growth indicated by the tertiary industries (commerce, services, etc.). In other words, the near-standstill of primary production growth was more than amply covered by the notable progress made by manufac-

turing.

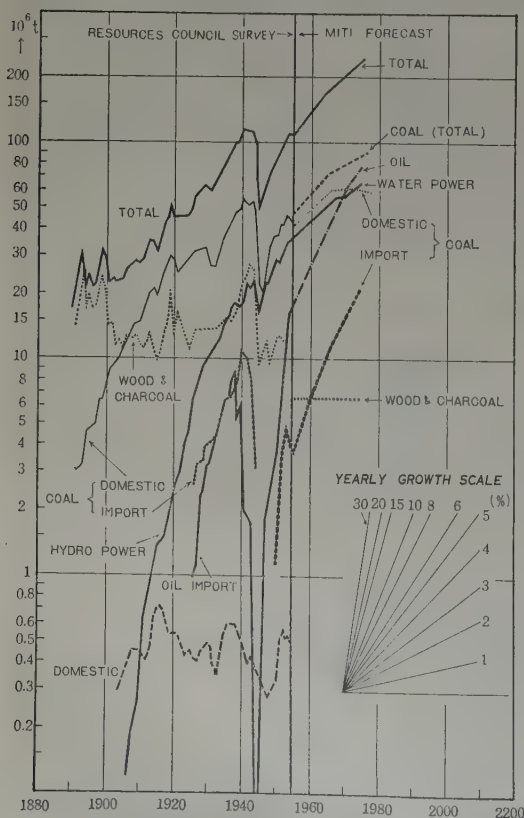
Few other nations, except perhaps the U.S.S.R., can boast such sustained growth, at a high rate, of industrial production. The United Kingdom's rate is 2 percent; the United States, 3 percent; Canada, 4 percent; and Sweden, about 4.5 percent. Some Japanese economists explain this phenomenal growth rate as "militarization" of the economy through utilization of low wages and inflated prices. To support this contention, it is pointed out that in times of conflict for energy resources the chart showing Japan's energy supply indicates sharp peaks and valleys as compared to the world supply chart. The level of 1945, for instance, is comparable to the lowest depths of hell, particularly with petroleum in desperate scarcity. Coal supply also dropped in that year by one-third, while hydro-generation of electric power declined 30 percent.

Previously, hydro power had not been affected so sharply as coal by business cycles. For in terms of electric power, hydro energy was supplemented by

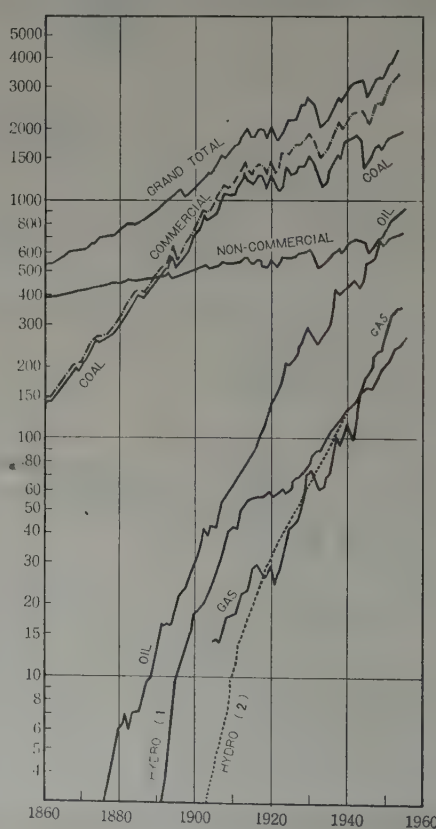
thermal capacity of about 15 to 20 percent of the total. So the electricity situation was not subject to excessively sharp fluctuations. The thermal side of electricity production proffers a sharp contrast: at the time of Japan's surrender in 1945, thermal generation of electric power was at a virtual standstill. Industrial plants, lacking the demand for products, were shut down; while the coal mines were producing practically nothing as a result of the mass exodus of Korean mineworkers.

Up to the beginning of the year 1900, firewood and charcoal held undisputed leadership as sources of energy. Even as late as 1940 these fuels produced more energy than either water or pe-

JAPAN ENERGY SUPPLIES
(Coal 6,500 Kcal/kg Equivalent)



WORLD ENERGY SUPPLIES
(Million metric tons of Hard Coal Equivalent)



troleum; and today they are still the source of more than 10 percent of the energy generated from domestic resources. In times of war, production of firewood and charcoal tends to about double. This causes the denuding of timber stands, and high incidence of flood disasters; so after World War II there came to be inseminated in Japanese minds the idea of such comprehensive development projects as exemplified by the Tennessee Valley Authority.

Import of petroleum, during the years leading up to World War II, increased 10-fold. This, however, far from being due to preparation for war, was rather one of the principal causes of the aggressive actions taken by the militaristic leaders of that time.

Modernization of Energy Development Industries

It is often said that "Japan, saddled with a huge population, is deficient in natural resources," or that "there exists an acute shortage of energy supply." But when the facts and figures pertaining to the growth of national income and the increase in supply of energy are properly studied, one is at loss to explain why and how Japan has managed to progress at rates not encountered elsewhere. Shortages or surpluses are concomitants of the supply-demand relationship, and the same erroneous reasoning that underlies the Malthusian theory is manifested when dealing with energy resources and requirements. The fact is that the people of some countries tend to speak and think in terms of energy, while others are not so minded. The difference lies in mentality. Some peoples turn to their government for aid and funds for any major project, while others are more self-reliant.

Be that what it may, Japan, as the charts show, has not always suffered from energy shortage, and at times surpluses have actually existed.

Much work has been done in connection with long-range forecasting of energy requirements and supply. One of the bodies undertaking this task is the Resources Council, and the recommendations of this organization are known as the "Aki Plan." According to the estimates used in the Aki Plan, the total energy requirement in 1975 will, in terms of coal, aggregate some 200 million tons. According to the "Uchida Plan," formulated in January 1957 under the auspices of the Ministry of International Trade and Industry, and named after Dr. S. Uchida, the chairman of the commission, the estimated requirement and supply for that year will be about 240 million tons (in terms of coal). (Cf. Tables 1 and 2) The Aki Plan arrives at its estimate by extrapolation of actual trends, while the Uchida estimate is based on production plans for key commodities.

As for the meaningfulness of discussing energy

1. JAPAN'S ENERGY REQUIREMENTS

Energy Source	Unit	1955	1965	1975	1955
Electricity	10 ⁹ KWH	53.3	98.1	147.5	2.77
Coal	10 ⁶ M.T.	49.5	81.0	117.6	2.36
Lignite	ditto	1.4	1.6	2.0	1.42
Petroleum	10 ⁶ Kl	11.2	23.9	35.7	3.20
Natural Gas	10 ⁹ m ³	0.156	0.570	0.855	5.46
Town Gas	10 ⁹ m ³	2.5	5.7	9.8	4.04
Coke	10 ⁶ M.T.	7.5	15.0	22.2	3.00
Charcoal & Firewood	10 ⁶ M.T.	2.1	2.0	2.0	1.00

Note: "Electricity" includes both hydro and thermal power.

Coal and Petroleum requirements include use for electric power generation, and town gas and coke production. Hence there is replication.

Source: MITI.

2. JAPAN'S ENERGY SUPPLY

(Expressed in 6,500 Kcal/Kg coal equivalent—Unit, 10⁶ M.T.)

	1955	1965	1975
Water Power	36.9	52.5	65.3
Coal & Lignite			
Domestic	42.9	61.9	66.9
Imported	3.8	11.0	21.7
Total	46.7	72.9	88.6
Petroleum			
Domestic	0.6	2.3	2.3
Imported	17.8	40.1	77.1
Total	18.4	42.4	79.4
Natural Gas	0.2	0.7	1.1
Wood			
Firewood	4.5	4.6	4.6
Charcoal	2.2	2.2	2.2
Total	6.7	6.7	6.7
Grand Total	108.9	175.3	241.1
Population (10 ⁶)	89.3	96.3	103.1
Energy Requirement per Capita (M.T.)	1.2	1.8	2.3

Note: According to United Nations statistics, the per capita energy supply stood at 0.97 ton for Japan, 7.62 tons for the United States, 4.78 tons for the United Kingdom, 3.03 tons for West Germany, 2.49 tons for France, and 0.91 ton for Italy.

Source: MITI.

requirements and supply in terms of coal or electric power, a critical opinion of this method was expressed by Monsieur P. Aillert of France at the Atomic Energy Conference held recently at Geneva. The Uchida Plan, because it calculates energy requirements created by projected production, is not subject to this criticism; but the fact that the Aki Plan is only 20 percent in disagreement seems to indicate that the extrapolation method is not so bad.

Below will be discussed the problems raised by each type of energy source.

Electric Power

In order to prevent the recurrent flash-floods of the postwar years; to aid in reducing the food shortage by better irrigation facilities; and to reduce thermal generation of electricity during the low-water season, there is now being undertaken large-scale development of reservoir-supplied power generation facilities. But because the capital outlays for such projects are high, thermal facilities too are being built up, with high-pressure, high-temperature, high-efficiency equipment, imported for the most part from the United States.

The new high-efficiency thermal plants are: Kansai Electric Power's Tanagawa station, Kyushu's Karita, Chubu's Mie, and Tokyo's Shintokyo. These are rated at from 66,000 to 75,000 KW each, operating at steam temperatures in excess of 540°C, and at pressures ranging from 88 to 100 kilograms per square centimeter. Recently, the Tokyo Electric Power Company has imported for its Chiba station a thermal set rated at 125,000 KW and operating at 128 atmospheres.

These thermal facilities were planned on the basis of the decline in coal prices subsequent to the Korean War, and the government regulation of fuel oil consumption. Because recently the demand for coal has increased and prices became higher, the electric power companies are having trouble obtaining coal of the desired quality at the originally anticipated prices. Because of the acute water shortage of recent months, huge amounts of coal have had to be used to maintain electricity supply at an adequate level, and difficulties are being encountered in obtaining coal deliveries. In consequence, the electric power companies have become all the more interested in nuclear power.

Electric power requirements had been increasing during the past several years at the annual rate of 11 percent. But for 1955-56 the surge rate will probably be close on 20 percent. According to data released recently by the Federation of Electric Power Enterprises it will be necessary, by 1965, to have some 1,000,000 KW capacity in atomic energy powered facilities, and by 1975 about 10 million KW. The estimated requirements run higher by about these amounts than the Ministry of International Trade and Industry predictions; and it will indeed be a good thing if no violent reaction to the unprecedented boom of 1955-56 occurs.

Coal

With boilers increasing in size, and with manual stoking replaced by mechanical feeds, and with the rising requirements of the chemical and cement industries, the demand is shifting from lump to powder coal. In step with this trend, a steady change is occurring in coal mining methods, with the supplanting of high-lump-yield hand pick methods by blasting, mechanical cutting, and power digging methods. Up to about 1940 these methods had been applied to the Japanese coal industry.

However, as compared to prewar, the tunnelings have increased considerably in length, and the time required to reach and return from the working faces has increased, on the average, about 50 percent. Moreover, because the working hours have been reduced as a result of postwar labor legislation it has become necessary to undertake unequivocal mechanization if higher efficiency is to be achieved. The Korean War boom enabled Japanese coal mines to adopt steel mine-props and the "Kappe" method, and currently 60 percent of the output is obtained by these means. Another form of modernization is the sinking of vertical shafts. The adoption of the "Kappe" method has resulted in the restoration of the output per coal-mining worker to about the prewar level, but when other underground personnel, such as excavators, fillers, prop-fitters, and others, are included, the productivity is only 70 percent of prewar.

3. DAILY COAL OUTPUT PER CAPITA

	Per Miner	Per Underground Worker	Per Mine Worker
1934.....	2.750 (100%)	1.160 (100%)	0.810 (100%)
1950.....	2.193 (80)	0.654 (56)	0.262 (45)
1955.....	2.693 (98)	0.823 (71)	0.539 (67)

The biggest single reason for this low productivity is the lengthening of the underground tunnelings, which results in time lost in hauling and in commuting. To eliminate these wastes, the solution in most cases is to sink vertical shafts. This method has long been in use in Germany, but in Japan, because of the thin vein of coal, and the lack of capital, inclined tunneling after the British practice has been more common. However, so long as the mining concessions remain small in area, and the natural conditions are poor, costly shaft mining cannot be expected to pay. Consequently, this method is restricted to a small number of operations. Currently, Japanese coal is mined on the average down to about 350 meters. There still remains coal to be won at depths ranging from 600 to 800 meters.

Petroleum

In 1937 Japan's production of petroleum was about

400,000 kiloliters, and this represented peak output. In 1955 production had not increased, and was at about 350,000 kiloliters. In future, however, there is a plan to boost output to 1.5 million kiloliters. Consumption of petroleum products is already in excess of 12 million kiloliters; and it is expected that the requirement will be doubled in every ten years.

Petroleum refining facilities increased ten-fold in capacity during the ten years since the war; and through joint ventures with foreign petroleum companies the most modern equipment, including fluid catalytic cracking and platforming, has been introduced to permit the refining and processing of low-grade Mideast oil to produce high octane gasoline in amount up to 40 percent of the crude. But because the demand for gasoline is not so high, there is excess capacity. On the other hand, the demand for fuel oil is extremely high in such industries as electric power, iron and steel, and town gas consuming this type of oil at a high rate. Consequently, import of fuel oil will have to be continued. In 1955 the consumption of fuel oil stood at 6 million kiloliters, and of this amount some 2 million kiloliters were imported. If in future, the demand for gasoline increases, and the domestic refinery capacities are boosted, the output of fuel oil will also be increased. According to predictions made by the Industrial Rationalization Council of the Ministry of International Trade and Industry, fuel oil production in 1965 will be at the 12 million kiloliter level.

Nuclear Power

As for electric power generation with nuclear energy, Japan is currently faced with the decision of when, and from whom, to purchase equipment of the type best suited to her needs. Until the restoration of independence by the Japanese peace treaty, even the study of atomic energy was prohibited. At the time of the surrender, a small cyclotron, a piece of laboratory equipment in no way directly related to nuclear energy, was seized by the Occupation authorities, hacked up and dumped into the sea. Then for some four or five years after the peace treaty, hardly anyone cared to go in for nuclear research and experimentation because the nation as a whole was haunted by disastrous memories of Hiroshima and Nagasaki, and the fear that the results of such works might be used for military purposes.

In 1954, the National Diet passed a budget appropriation of some \$700,000 for atomic energy research and development; and after with successive increases in amount it was recently decided that the outlay in fiscal 1957-58 should be \$25 million.

In January 1956 there was inaugurated the Japan Atomic Energy Commission, and with it the Atomic Energy Research Institute. Then in March 1956 there was formed, by interested industrialists, the Japan Atomic Industrial Forum. These bodies have been making surveys of atomic power developments in other parts of the world; and in the area of research and experimentation Japan's first experimental reactor, a water-boiler type rated at 50 KW, is scheduled to start operating this coming June at Tokai-Mura, some 100 kilometers to the north of Tokyo. This will be Japan's first experience with controlled nuclear chain reaction. Next to be introduced will be

a 10,000 KW CP-5 type reactor, due to be installed in 1958; but with matters reaching this stage there has recently been much discussion as to the advisability of importing without delay at least one commercially practical nuclear power plant of from 100,000 to 150,000 KW capacity. According to press reports, it appears likely that the Government will this summer and autumn send missions to the United Kingdom and the United States for the purpose of entering into nuclear power agreements with these nations, and for negotiating contracts for the purchase of power reactors.

Responsible for this turn of events in no small way is Mr. Matsutaro Shoriki who firmly believes that it is best "so long as it pays" to undertake immediate importation of atomic power plants. Consequently, when he heard in January 1956 that the 180,000 KW nuclear plant projected by Commonwealth-Edison would be generating electricity at a cost of 7 mils per kwh he was immediately intrigued. Later announcements, however, made it clear that the Edison project was still in the planning stage, with technical difficulties still to be overcome, and with the other American power reactors would produce electricity at terminal an estimated 52 mils per KWH. This made Mr. Shoriki turn to British developments, and in autumn 1956 he ordered a ten-men mission, headed by Mr. Ichiro Ishikawa to visit the Calder Hall power plant in England. This party later visited the United States; and the results of the survey were published in the form of a report, the highlights of which are:

1. Although there are details that require looking into, the Calder Hall system of nuclear power generation appears to be satisfactory as to performance, safety, and economy; so negotiations should be undertaken in regard to purchase.

2. Special study will have to be made to make the installation proof against earthquakes.

3. It will be necessary to send another mission to ascertain such things as the technically obscure details, the arrangements for longterm supply of nuclear fuel, royalty payments, credit for purchase, the extent of works possible by Japanese manufacturers and contractors, terms of guarantee, etc.

4. Early conclusion of a nuclear power agreement.

5. Organization of and preparations by the Japanese party to the contracts and transactions.

6. It is recommended that the unit capacity of the nuclear power plant be from 100,000 to 150,000 KW, the number of units to be purchased to be determined by availability of funds, the cost of power generation, delivery dates, etc.

Among the points listed, the problem of earthquake-proofing appears to be the most serious, for in this connection there are involved such matters as continuous operation guarantee, and initial cost which affect the economic feasibility and dependability of nuclear power installations. In case of earthquake, the Calder Hall-type reactor and supporting components in their present form would undoubtedly suffer considerable damage. All seismological experts and architects in Japan, who have examined the prints are unanimous on this point.

In the early days of the Meiji Era (1868-1911) Japan called in British architects and construction engineers to build such foreign-style structures as the Army Staff Headquarters, the Foreign Ministry,

the Rokumeikan, etc. all with brick and mortar imported from England. But most of the buildings erected at that time have disappeared, destroyed by earthquakes and fires. It was recognized early that the methods of construction acceptable elsewhere would not apply, and since towards the end of the 19th century the Japanese method of reinforcement with steel has been the practice even with buildings of stone or brick. Then the Great Earthquake and Fire of 1923 resulted in added experience and advancement of methods. With nuclear reactors, however, it would be disastrous to wait for actual experience of destruction.

As for the economic aspects of nuclear power generation, the Ishikawa mission reports that with a unit capacity of 280,000 KW it will be possible to produce electricity at a cost of ¥3.46 per kilowatt-hour. The basis of this estimate, as furnished by the British, is as follows:—

Cost of Installation.....	¥120,000/KW
Cost of Fuel.....	¥ 20,000/Kg
Burn-Up Rate of Fuel	3,000 MWD/ton
Amortization Period	20 years
Interest Rate.....	6.5 Percent
Thermal Efficiency	25 Percent
Load Factor	80 Percent

(No credit for plutonium)

Apart from the other figures, the 80 percent load factor appears to be somewhat questionable, particularly with the first power reactor; and it is considered that a guarantee may be difficult. In general commercial practice, when guarantees are given on fuel and the performance of the components, replacement is done without charge in case of faulty functioning; but the indirect losses, resulting from power stoppages and reduction of revenue, are not covered. It appears that a load factor of 80 percent was set, allowing for down time for tests, inexperienced operation, and other accidents, including earthquakes. This would mean that during operation time, the plant would have to be worked at full capacity. It is opined that with at least the first power reactor, the operability will be somewhere around 20 to 30 percent of the total time; and the question of who is to take up this loss will affect to a great extent the decision on what form of organization should be entrusted with the nuclear power project.

As for purchase of power reactors from the United States, serious thought is being given to the matter, but no definite conclusion has as yet been reached. The Ishikawa report states that various types of reactors are being developed in America, and since they are promising, it is recommended that a mission be sent to look into the situation. Subsequently, there have been visits to Japan by representatives of Westinghouse Electric and Ebasco, which have revived interest in American developments. Nevertheless, the Japanese still tend to favor the natural uranium fueling method, partly because of the enriched uranium blasts that knocked out two of their cities, and partly because of the conditions imposed by the United States on export of enriched uranium which, judging from Japan's energy resources, cannot possibly be manufactured locally. Yet, with the energy situation becoming quite critical, some decision, one way or another, will have to be made, although nothing definite can be said until some reactors have been operated for considerable lengths of time to check on actual performances. (*The writer is assistant, Nuclear Power Section, Electric Power Development Co.*)

Glimpses of Japanese Culture

Japanese Sculpture

Its history and crafts

By Bunsaku Kurata

History of Japanese sculpture is long. It covers almost eighteen centuries. A number of clay figures known as *haniwa* which were made as terra-cotta grave figures in the ancient burial mound age (c. 3rd to 5th cents.) are simple in representation but eloquently expressive. Some of them are dignitaries dressed heavily in armor, while others are girls, smiling happily or dancing. Aesthetically speaking, they are very modern, as are their contemporaries on other continents. Critics regret that these early native art forms were replaced almost totally in the course of Japan's sweeping adoption of continental civilization.

Asuka Period (522-646)

The introduction of Buddhism from China in the middle of the 6th century, chiefly by way of the bridge-like peninsula of Korea, brought a dawn of civilized society to Japan. Japanese rulers were impressed by the advanced philosophy of Buddhism and Buddhist art, as well as by the form of government, social structure and other aspects of Chinese civilization. They welcomed men of professional skills from the continent, who, in turn, settled in Japan to pursue their trades and to teach the Japanese.

Among artists group was Tori Busshi, a sculptor who cast the principal bronze images in the Golden Hall at Horyuji Monastery in Nara. Through his works the style of Chinese Northern Wei dynasty came to be established in Buddhist sculpture of the period. There are extant today a number of other gilt-bronze and some wooden statues from this period, specimens of which are found in many temples in and around Nara and Kyoto. When closely studied, these statues reveal variations in style which indicate that Tori's was only one of a number of styles from which Japanese apprentices were able to choose. Robert Paine writes, in his 'Art and Architecture of Japan', of Tori's style: 'The heads show long faces, almond-shaped eyes, and a gracious archaic smile. The pose is nearly symmetrical, and draperies exhibit a luxurious rhythm of full curves. There exists an emphasis on outline which has no significance for sculpture in bronze . . . ' This emphasis on outline, of specially beautiful linear effect, comes undoubtedly from the art of stone-cutting, of cave images of Buddhist statues which were actually high reliefs done on cliffs and cave temples, dating from the Northern Wei dynasty. The faces carved by Tori are of charmingly abstract, symbolic beauty.

Other wooden statues made in the Asuka period, such as the famous deities of Yumedono Hall of Horyuji, of Chuguji or Koryuji, are more natural in posture and of extremely sensitive beauty.

Principal materials used in the Asuka period were thus bronze and wood. Casters of the earliest bronze works were most probably either Koreans or Chinese. Japanese apprentices obviously learned the craft with great interest and ease, since we have today so many fine specimens of bronze images that are of Japanese character and workmanship. Those bronze images are all made by wax-casting. The bare essentials of the method used is as follows:

First a clay core is made. Over this the sculptor applies wax, which he models into whatever shape he desires, with all its details of hair, drapery and jewelry. This layer of wax is then covered with more clay which forms an outer shell. When molten bronze is poured between the inner core and outer shell, the outer shell is then chipped off and the inner core is removed, leaving the bronze cast of the wax original. The surface of the statue is polished carefully with whetstone and charcoal. If necessary, details were carved or improved with the graver. Finally the statue was gilt by an amalgum-gilding process.

For the wax, Buddhist artists used a mixture of beeswax and resin, to obtain the proper viscosity. They usually made the outer shell of three clay layers, the innermost layer being relatively soft and delicate. The inner core was baked beforehand. Often nails were driven through the outer shell into the inner core to prevent movement of the latter when the molten bronze was poured. Also other bronze sculptures were not made hollow but of solid cast bronze.

Japan is an interesting country. I make field trips to various parts of the country so often. It is not an extraordinary experience for a field researcher to come across, quite unexpectedly of course, to an amazingly fine specimen of 6th to 7th century bronze image in a provincial temple. It is my job to prepare a careful detailed report of the sculpture concerned, and register it as an Important Cultural Property. In many cases, it is a matter of sheer luck. But I can also guarantee that almost 100 percent of the bronze statues readers may find in curio stores or art shops are invariably fakes. If not, please be good enough to let me know.

Nara Period (646-794)

Japanese art of the early Nara period shows the direct influence of art of the early T'ang dynasty reflecting the close relations between Japan and China in those days. Japanese sculpture of this period no longer has the rigid frontality and symmetry which characterized the works of the preceding period. It is less stiff and austere, having more grace, natural ease of posture tending almost to a sensuous softness. Moreover it shows distinctive Japanese characteristics in increasing degree.

In the prosperous Tempyo era (720-810) under the reign of Emperor Shomu, Buddhist art in Japan became fully naturalized and attained its zenith of perfection as well as great production. Temples and nunneries were built in unprecedented number, and had to be filled with Buddhist images. The statues made were of all sizes. At the Great Eastern Temple, or the enormous Todaiji of Nara, they ranged from a tiny statuette of the Infant Shaka up to a colossal bronze Buddha more than fifty-five feet in height.

Casting of the Grand Buddha of Todaiji was truly a national undertaking. The present colossal deity which you find in the Daibutsu-den Hall is nothing but the faint reminiscent of a lost glory. The original face and upper part of the body was lost in fire caused by the civil war in the 12th century. Portions that are original, of the grandiose deity, are its knees and lotus pedestal, latter of which is especially notable because of the numerous line-engraved images of various Buddhas and Bodhisattvas.

It is impossible of course to cast an image of this size by a single casting. The base of the statue which is to become the lower part of the body, some three to four feet high, is cast by the first casting. Then the inner core and outer shell is built up another three feet high and cast. Necessarily the lower part of the statue has to be buried under pile of sand during the process of repeated casting. When the final casting is done, and the image is made, the whole statue is actually hidden under a sand hill of respective height. And the hill is removed most carefully then, so as to reveal the now cast image. The process is somewhat like the one used in Egypt for making the pyramid. The Grand Buddha of Kamakura was also made by the same method in the 4th year of Kencho (1252) of the Kamakura period.

Among the specimens of bronze sculptures dating from the early Nara period, the Yakushi triad and Sho Kannon of Yakushiji in Nara and Yakushi statue of Kanima-dera in Kyoto are best known as masterpieces.

Throughout the Nara period, Japanese artists worked freely and brilliantly with clay, dry-lacquer, bronze and wood. These grandiose projects, were carried out at the expense of the state and symbolized the power of the state religion. Near the capital of every province a provincial temple was erected to spread the doctrine of the supreme sovereignty of Buddha, who ruled the whole universe. This entire fabric was closely related to the growth and centralization of political power.

There are extant in Japan a number of masterpieces of dry-lacquer statues. In the making of the hollow dry-lacquer statues, hemp cloths soaked with liquid lacquer were wound around the central armature made of clay. When the lacquer had dried the clay core was carefully removed, leaving the rigid hollow shell of lacquer and hemp. Details were added with a paste of liquid lacquer and saw-dust. Where necessary, internal support was provided by means of wooden armatures.

Late in the Nara period, this craft of hollow dry-lacquer sculpture was abandoned, possibly because of the high expenses necessary, and instead wooden statues covered with thick coatings of lacquer were made in abundance. In craftsmanship the latter are almost similar to later wooden sculptures, except that the details are moulded with *kokuso*, or lacquer paste stiffened with saw-dust, botanical fibres or incense powder. Surfaces of these lacquered wooden sculptures were cleverly polished with charcoal and were either colored or gold-foiled. We find here an interesting combination of the crafts of carving and modelling.

Principal images in the famous Sangatsu-do Hall of Todaiji are master works of the hollow dry-lacquer method. The grand deity of Rushana-butsu or Vairocana at the Golden Hall of Toshodaiji also in Nara is their worthy rival. Statues of the Ten Disciples of Shaka in the collection of Kofukuji in Nara are especially famous for their amiable faces. The statue of Eleven-headed Kannon of Shorinji, located in Sakurai in Nara prefecture is the perfection of the craft of wooden core plus dry-lacquer coating.

There have survived in Nara a number of masterpieces of sculpture made of unbaked clay. They are rarely larger than life-size and are generally smaller than the dry-lacquer or wooden statues. The clay was moulded around a shapeless wooden core, copper or iron wires bound with hemp twine were used for armatures in fingers and other details. Surfaces were finished with very fine clay. They were also whitened with a mixture of mica powder and colored with bright pigments or gold-foil. These colored designs could hardly stand the ages, but even today we are able to see their remains.

Among the clay statues, most noted works are: figurines dating from the early Nara period (c. 711 A.D.) enshrined in the five-storied pagoda of Horyuji, statues of Nikko and Gakko Bosatsu of Sangatsu-do Hall of Todaiji, four guardian kings in the Kaidan-in Hall or the famous Shitsukongo-Shin of Sangatsu-do of Todaiji, and the twelve generals installed around the main deity of Shin-Yakushiji Monastery in Nara. With the exception of the figurines of Horyuji, they all represent the master skill of the Tempyo era in the first half of the 8th century.

Heian Period (794-1185)

Late in the 8th century the nation's capital was established in Heian-kyo or the present city of Kyoto, marking the beginning of a new period. The early part of this period saw the introduction of esoteric Buddhism by the two Japanese priests Saicho (or Dengyo Daishi) and Kukai (or Kobo Daishi). Sculptures of the 9th century, mostly of wood, is marked by solemnity, ample modelling and sharply chiselled draperies, reflecting the doctrines of the esoteric Buddhism. We meet here the golden age of Japanese wood sculpture. The oldest specimens of wood sculpture of the Asuka period are often mistaken for gilt-bronze statues. Apparently the makers cared little for wood carving as such and tried to make wooden facsimiles of bronze statues. It was late in the Nara period that wood sculpturing came into its own and took the place of the elaborate work in bronze, clay and dry-lacquer. Reasons why the classic and highly developed sculptural crafts were suddenly abandoned in favor of the wood sculpture are not entirely clear. But it may be presumed that the more painstaking and expensive crafts had to be given up because after the 8th century building of Buddhist temples and making of their icons were no longer done at the expense of the State. The grandiose Buddhist projects of the Nara period had been an excessive drain on the national economy, and on this account state support of Buddhism collapsed. Excessive state patronage of Buddhism throughout the Nara period had made the priesthood arrogant and demanding. One of the reasons the Emperor Kammu moved the capital from Nara to Kyoto was to escape the hierarchy of Buddhist temples at Yamato. In the new capital, the government and its various institutes came under the control of a regency and allied powerful families whose income from their estates allowed them ample leisure for enjoyments of the arts. Thus the Heian nobles and aristocrats became the new patrons of sculptors. Temples which were meant to be the private churches for certain families were built in various parts of the country, and deities enshrined therein were invariably wood sculptures. With this change, sculptors turned from modelling to carving. And for better or worse, the effect of sharp chisel work was much to the liking of the Japanese people. Perhaps it was only natural that wood, a material of great abundance and common use in the country, came to be preferred.

In the *ichiboku* (single-block) technique, the body of a standing image, including head, trunk and legs, was carved out of a single block of wood. If the image was of a seated variety, the crossed legs were often carved from another separate block. In exceptional cases, however, even the arms, drapery and upper part of the pedestal including the knees were carved out of a single block.

Earlier specimens made in the first half of the 9th century are often covered with the thick dry-lacquer coating. Details of face and jewelry are moulded with the use of dry-lacquer paste. The most beautiful image of Nyoirin Kannon of Kan-shinji, Osaka, and statues of Godai Kokuzo of Jingoji, Kyoto, and also the impressive statues of esoteric Buddhist gods in the Lecture Hall of Kyoo-gokokuji (popularly known as Toji) in Kyoto are all specimens of the kind.

Though contemporary with these statues, such sculptures as the Yakushi Nyorai of Jingoji (Kyoto) or Eleven-headed Kannon of Hokkeji (Nara) are typical specimens of beautiful wood sculptures. They are especially worthy of note because of the exceedingly sensitive use of sharp chisels which beautifully rendered the details of face and drapery.

In the 11th century, the *yosegi-zukuri* or joined-block technique came into popularity. Jocho, the great master of the middle Heian period, is often credited with its invention. In this method, dozens of separately carved units are joined together by use of lacquer, glue, nails and staples, according to the original plan of the master. And because the statue was left hollow inside, it could be much lighter and its construction prevented serious cracking, such as might afflict single-block sculptures.

In Uji city near Kyoto, there is Byodoin Monastery which is famous for its Phoenix Hall. The monastery was built on a scenic spot along the River of Uji, originally as a villa of the Fujiwara family. The Phoenix Hall was built in the year 1062 A.D. at the votive wish of Fujiwara Yorimichi. For this special architecture dedicated to Amida Nyorai who is the Lord of Western Paradise, sculptor Jocho carved his master work of the merciful Buddha, some nine feet tall in seated pose, gorgeously furnished with pedestal, halo and canopy. When the statue was finished, a small lotus pedestal with sacred sanskrit characters written on its top was graciously made to be kept forever inside the hollow wood sculpture. This Amida Nyorai of the Phoenix Hall is enough to introduce every feature of the glorious Fujiwara sculpture, so Japanese in expression and making. You may compare it with its contemporaries such as the nine statues of seated Amida of Kutaiji or that of Hokaiji in Kyoto prefecture.

Kamakura Period

Late in the twelfth century, a military regime was established by the shogun Minamoto Yoritomo in Kamakura, some two-hundred miles north-east of Kyoto. During the century and a half that followed Kamakura remained to be the seat of the government, though the Imperial court was in Kyoto. Artistic styles reflected the new state of affairs in changing from the refined romanticism and cloistered elegance of the late Heian period to the more virile and realistic style favored by the new samurai patrons. The sculptors' guilds were extremely active, since a number of Buddhist temples were destroyed or damaged in the civil wars preceding the establishment of the military government. Due partly to the study of ancient works involved in restoration of the damaged masterpieces, there was a remarkable renaissance of Nara period styles and techniques. The Chinese Sung style, introduced early in the period also provided stimulus for Japanese sculptors. The best works of the period, which included many portrait sculptures, were characterized by vigor and realism. Toward the end of the period however the realistic style degenerated to mere technical display in exaggerated muscles, folds of drapery, etc. Thus, at the end of the Kamakura period, the great tradition of Japanese religious sculpture came to an end.

Among the works of this Kamakura period, such statues to be remembered are: two colossal statues of guardian deities (Ni-o) standing in the portal of Todaiji Monastery, made by the collaboration of the two masters of the period Unkei and Kaikei early in the period, image of the Shinto god Hachiman by Kaikei also in the collection of Todaiji, twenty-eight attendant figures for Kannon and two gods of wind and thunder installed in the Sanjusangen-do Hall of Myooin in Kyoto, and the Grand Buddha of Kamakura that is believed to have been cast in the year 1252 A.D.

(The writer is Technical Official, in charge of sculptures, Cultural Properties Protection Commission.)

Kaleidoscope

Overseas Investments:—Japanese investments overseas in fiscal 1957 are estimated by the Ministry of International Trade & Industry to amount to ¥23,500 million. The prospective investments abroad may be roughly classified into three groups: 1) pure private investments on commercial basis amounting to ¥6,500 million (¥2,400 million in 1956); 2) private investments of specific nature such as investments in Alaskan pulp or in a steel project at Minas Gerais (Brazil) amounting to ¥6,500 million; and 3) investments under governmental agreements and like such as reparations accords amounting to ¥10,500 million.

Household Budget:—The monthly average of real income for the wage earner dwelling in the urban area in calendar 1956 stood at ¥30,776, up 5.5% over the like average in calendar 1955, according to the survey of the household budget of the city dweller conducted by the Statistics Bureau of the Prime Minister's Office. The hike of the average monthly income was largely due to the boost in term-end allowances, as the regular monthly receipt remained almost at a standstill throughout the year. The monthly average of real expenditure for calendar 1956 registered ¥27,543, hike of 2.8% with the consumer spending taking ¥24,231 of the total, up 3.1%. As a whole, the gain of expenditure was slower in tempo than the hike of real income. Savings increased 24.3% and charge payments rose 11.0%, respectively, the same source revealed.

Cotton Industry:—The production of pure cotton yarn in calendar 1956 hit a new postwar peak by totalling 2,543,980 bales while the 1956 output of pure cotton fabrics also reached a new postwar high at 3,300,521,000 sq. yds, up 17.3% over calendar 1955. In the same calendar year, exports of cotton yarn totalled 27,294,000 lbs. and those of cotton fabrics amounted to 1,262,063,000 sq. yds., the second largest since the war's end (next only to calendar 1954) while exports of secondary products also hit a new postwar high at 69,281,000 lbs. Meanwhile, the domestic supply of cotton goods in calendar 1956 totalled 645,152,000 lbs. or 7.16 lbs. per capita, eclipsing the per capita average in 1955 by about 14%.

10,617,000 Tax Payers:—Some 10,617,000 persons are expected to pay income tax in fiscal 1957 as compared with 10,354,000 in fiscal 1956, according to the data submitted by the Ministry of Finance to the National Diet on March 1. The increase in the number of tax payers despite a drastic tax cut under the fiscal 1957 taxation program is attributable to the general elevation of the income levels. Of the estimated total of 10,617,000 tax payers in fiscal 1957, the medium income bracket (with the annual incomes ranging from ¥300,000 to ¥500,000) takes the lead by reaching 3,660,000 (or 34% of the total). In the fiscal 1955 tabulation, the group with the annual incomes less than ¥200,000 predominated with 36% while on the fiscal 1956 list the group with the annual incomes ranging between ¥200,000 and ¥300,000 topped with about 35%. Still more overwhelming, however, is the overall percentage of tax payers with the annual incomes less than ¥500,000 who number 9,290,000 or 87% of the total and are bound to pay the combined sum of ¥87,500 million in tax or nearly half the total tax revenue for fiscal 1957. Reflective of the business boom, the high-income bracket is also estimated to increase with those with over ¥5,000,000 annual incomes up 1,000 to 4,000 in number. Those with the annual incomes between ¥2,000,000 and ¥5,000,000 will increase 15,000 to 34,000 while those with the annual incomes of ¥1,000,000–2,000,000 to rise 46,000 to 147,000.

More Employment:—The labor market in calendar 1956

proved more favorable, according to the labor force survey made by the Statistics Bureau of the Prime Minister's Office. The average number of gainfully employed in 1956 stood at 42,280,000, marking a sharp gain of 1,160,000 over 1955 while the number of totally jobless slipped 40,000 to 640,000. The increase of gainfully employed was attributed largely to the activer labor demand in industries other than agriculture and forestry, with the total number of employed at 25,460,000, up 1,490,000 over 1955. On the other hand, the number of workers engaged in agriculture and forestry decreased 330,000 to 16,820,000.

State Properties:—The State properties as they stood at the end of March, 1956 reached ¥1,925,300 million in value, divided into ¥1,044,500 million (54%) in administrative assets used by governmental offices and ¥880,800 million (45%) in ordinary assets. More minutely classified, the State properties included ¥643,800 million of valuable securities owned or financed by the Government, ¥556,200 million of standing trees, ¥280,300 million of land, ¥266,100 million of buildings, ¥121,300 million of other structures, ¥31,000 million of vessels, ¥26,300 million of machinery and equipments and ¥400 million of other assests. The State-owned land accounted for 25% of the total space of land within the country. Of the ordinary State assets, some ¥110,800 million worth are offered for the use of the United Nations Forces and ¥72,300 million are loaned to other parties while some ¥66,600 million worth are left unutilized.

Industrial Funds:—The supply of industrial funds in fiscal 1957 (April, 1957 to March, 1958) is estimated to total ¥2,036,700 million, down ¥230,000 million or about 10% from the supply in fiscal 1956, according to the announcement by the Economic Planning Board dated February 19. The slip is largely due to the drop in foreign currency funds such as usances as well as the decline of some domestic funds like loans and stocks. On the other hand, internal funds and financial funds are bound to gain. Details of the fiscal 1957 industrial fund supply are as follows (in ¥100 million): 1) Internal funds—6,632 (6,220 in fiscal 1956) including 3,032 (2,980) in internal reserves and 3,600 (3,240) in depreciation funds; 2) External funds—12,925 (15,492) including 1,640 (1,127) in financial funds; 11,300 (14,450) in private funds (inclusive of 1,700 in stocks, 900 in debentures and 8,700 in loans); -15 (-85) in withdrawals in the foreign exchange account loans 3) Subtotal—19,557 (21,712); 4) Foreign currency funds—810 (990); 5) Total—20,367 (22,702).

Electric Appliances:—Production of household electric appliances has been increasing by leaps and bounds in recent years with the output in 1957 expected to far excel that in 1956. Particularly notable has been the hike of washing machines, radio sets and TV sets. The transition of major electric appliances in the past three years, 1954 through 1956, was as follows (in 1,000 units): electric fans—562 in 1954, 515 in 1955 and 797 in 1956; washing machines—266,461 and 754; refrigerators—17,31 and 81; radio sets—1,395, 1,789 and 2,981; TV sets—31,137 and 312.

Imported Materials:—With imports redoubling the increasing tempo since the close of last year through early this year, inventories of imported raw materials have been markedly replenished. As of the end of January, the inventories index of imported raw materials stood some 45.6% higher than a year ago while the index of inventory rate (the inventories index divided by the raw materials consumption index) also rose by about 10.0%. Under the circumstances, the rising pace of imports is bound to hit the ceiling before long.

Commodity Market

Cotton Goods:—Cotton yarn quotations, long on the wane, hit the bottom in early March and continued a bullish zigzag. The monthly pure cotton yarn production in February totalled 242,000 bales, far eclipsing the January low of 212,000 bales and establishing a new postwar high. Responsible for the February production boost were: 1) Ampler electric power supplies; 2) the guarantee of smooth raw cotton supplies in the future (with 2,600,000 bales allocated); and 3) the improving break-even point by the use of allocated raw cotton. Equally brisk were export contracts concluded for cotton fabrics in February which totalled 191,713,000 square yards or up about 50% over January deals. The month-end inventories (the combined total in hands of spinners, weavers, secondary-products processors and wholesalers) stood low at 433,000 bales in terms of yarn, well behind the "abnormal" level of 500,000 bales, thanks to brisk domestic demands and active exports. Despite general predictions by traders that the quotations will spurt up in April after a lull in late March, the market output is not necessarily optimistic, as the smooth consumption of the average 240,000 monthly production is not an easy job. Inventories are thus bound to gain and the problem of production curtailment is likely to crop up again.

Chemical Fibres:—Spun rayon continued weak into March with the mid-month quotation standing at around ¥80 per lb. as compared with ¥100 at the close of last year and ¥90 in February. The spun rayon production, which reached an all-time high at 66,700,000 lbs. in January, dropped to 63,700,000 lbs. in February, but this was still a high mark. With the demand failing to increase at an equally brisk tempo, inventories have been on the hike with the February-end total far eclipsing the 100,000,000-lbs. mark inclusive of 32,970,000 lbs. in the hands of manufacturers. With the market prices well below the break-even point, and inventories mounting, 14 spun rayon manufacturers are getting ready to enforce an autonomous production curtailment. Some companies are even asking the Ministry of International Trade & Industry to make an official recommendation for production cuts. Whether official production cut instructions will be issued depends on the size of the March production. The price of spun rayon yarn has been declining in parallel with the current price level almost equal to the break-even point. Equally weak is the rayon filament yarn market with the price nearing the ¥200 mark. Some of the major reasons for the slip of filament yarn prices are: 1) inactivity of exports to Indonesia, the largest export market for Japanese rayon filament yarn, due to the foreign currency shortage and the unstable political situation; 2) uncertainty of the export outlook to Communist China due to the indecisive attitude of a visiting Chinese textile mission; and 3) the continued expansion of production and the consequent gain of inventories. As a countermeasure to cope with the weakening market, six major rayon filament yarn companies are planning to double the volume of yarn delivered to weavers for processing. Unlike spun rayon, the current level of market prices for rayon filament yarn are still comfortably higher than the break-even point and hence no attempt has as yet been made to curb production. It will be after the prices have dived below the ¥200 mark that the production cut problem comes to be seriously discussed.

Woollen Yarn:—Under the impact of the overall lethargy

of other textile markets, the prices of woollen yarn have begun to drop in parallel with the current level coming close to ¥1,000 from a high of ¥1,200 some time ago. Responsible for the negative market tone are: 1) increasing imports of wool. The foreign exchange allocation for wool imports in fiscal 1956 has totalled 1,170,000 bales (inclusive of additional imports), some 68% larger than fiscal 1955 imports of 695,000 bales. The wool imports in fiscal 1957 are estimated to rise further to 1,200,000 bales; 2) the drop of the wool quotations. The Australian wool price, which stood at 134–135 pence in February has sharply declined to about 120 pence, and 3) the collapse of the prices of spring woollen items. Some commercial houses handling woollen fabrics have gone bankrupt as a result. Weavers have become exceedingly cautious in purchasing yarn, and the yarn price has fallen to around ¥1,000 or ¥1,050 at best. With the yarn price at ¥1,000, wool spinners can still reap a profit of about ¥200 per lb. by using wool at 120 pence, although the situation is not particularly favorable for spinners buying wool at a premium (30%).

Raw Silk:—The raw silk market has remained stationary without any particular changes. Exports of Japanese raw silk have continued depressed with sales in Europe particularly outrivalled by Chinese silk. For instance, raw silk imports by France in 1952 were divided into 69% of Japanese silk and 13% of silk from Communist China, but the ratios changed to 60% and 35%, respectively in 1956. In Switzerland, Japanese silk took 64% against Chinese silk's 25% in 1952, but this order was reversed in 1956 when the latter took 60% against the former's 35%. In silk trade with the United States, however, exports of silk fabrics have been making energetic headway with the 1956 shipments totalling 46,027,000 square yards, up 80% over the 1955 sales.

MAJOR TEXTILE QUOTATIONS

		Cotton Yarn (Osaka)	Rayon Yarn (Osaka)	Spun Rayon Yarn (Osaka)	Woollen Yarn (Nagoya)	Raw Silk (Yokohama)
1956: Oct.	6.....	188.0	244.5	143.9	1,095	2,041
	13.....	187.0	235.9	138.9	1,092	2,057
	20.....	186.6	222.6	134.8	1,094	2,009
	27.....	186.0	231.5	131.5	1,149	2,028
Nov.	2.....	188.9	256.0	139.9	1,183	2,050
	10.....	187.0	240.5	136.5	1,181	2,038
	17.....	195.9	251.5	137.9	1,249	2,007
	24.....	195.9	268.0	138.0	1,251	2,028
Dec.	1.....	193.3	261.4	137.5	1,232	2,007
	8.....	187.0	253.9	135.8	1,149	2,012
	15.....	187.6	253.1	137.8	1,135	2,005
	22.....	183.1	249.9	134.0	1,117	2,037
	28.....	185.2	251.0	133.6	1,132	2,037
1957: Jan.	4.....	187.3	251.9	133.5	1,125	2,037
	12.....	184.9	235.9	129.2	1,122	1,993
	19.....	184.0	229.6	133.8	1,135	2,002
	26.....	185.5	226.1	132.2	1,150	2,024
Feb.	2.....	184.9	227.1	128.5	1,184	2,070
	9.....	182.7	218.6	123.9	1,173	2,082
	16.....	181.6	224.5	122.7	1,126	2,075
	23.....	181.6	228.1	116.4	1,110	2,040
Mar.	2.....	175.3	216.9	114.5	1,074	2,014
	9.....	175.0	218.0	113.1	1,037	2,050
	16.....	175.9	213.0	113.1	1,012	2,046

Labor

Spring Labor Offensive Nearing End:—

Demanding an average ¥2,000 wage hike and the establishment of ¥8,000 minimum wage system, *Sohyo* (General Council of Japanese Trade Unions) carried out in part its Quixotic threat to stage a nation-wide strike on March 11 as scheduled. The private Railways Workers Union, National Railways Workers Union and Coal Miners Union, the three mainstays of the giant labor confederation, stayed close together, unlike a year ago when each made a separate peace to their solo advantage, and supported each other to get their demands through as much as possible.

Especially strong in attitude was the Private Railways Workers Union, which planned an unaccustomed weekday strike. (Hitherto, most of the strikes were carried out on Sundays in order not to irritate the general public unnecessarily.) Therefore, the fear was afloat that the white-collared commuters and university and college examinees (it is an entrance examination season in Japan) would be put to an extra ordeal. But both the management and labor showed unusual eagerness to settle the differences before the date of strike. On March 10, only twenty-four hours before the strike, the managements of the bigger 13 private railway companies offered the compromise wage hike plan of ¥1,250 to the union, which, after a long deliberation, decided that the time had come to try separately to haggle for a final settlement amount.

Thus, only a few hours later than the management's offer, the Nagoya Railways Workers Union accepted the average ¥1,350 wage hike, ¥100 more than the original offer. Taking this as a cue, other unions came hurriedly to terms with their managements around the ¥1,300 mark. No serious disturbances occurred on the private railways lines on the date of strike.

Coal Miners Union, on the other hand, had been resorting to short-hour tactics since February 20 and carried out a 48-hour strike on March 7 through 8. On March 11, the day of planned general strike, the union plunged into a 72-hour walk-out. A depression-turned-boom industry, coal company managements started haggling with ¥500 offer this year, while only a year ago, the companies' reply started with a clean zero. With a push there and pull here, the management's offer finally climbed up to ¥1,300, an amount hitherto undreamed of in the coal circles. This the union deigned to accept.

One of the most remarkable characteris-

tics about this hand-shake between the management and the labor is the fact that the settlement was entirely of their own accord and without any help from the outside pressures such as doled out by the Central Labor Relations Board. This is the first time that such accord was reached in the coal circles, one of the most friction-inclined industries.

By dint of the past strike, the coal production is estimated to have gone down by 500,000 tons. In view of the fact that the total coal stockpile at the end of February stood at the lowly 1,200 ton mark, the effects of the March strike would continue to affect adversely the Japanese industry as a whole.

Unions in the Government and public corporations including the touch-and-go National Railways Union, likewise had been sticking to their fantastic ¥2,000 wage hike demand until the Central Labor Relations Board offered its mediation plan of ¥1,200 wage hike on March 9 and 11, which the unions accepted. Government, however, was reluctant to go with the plan claiming that there was no valid reason to back up the pay boost.

The union whereupon accused the Government of being uncooperative and the National Railways Workers Union, the champion of all the Government and public corporation unions, resorted on March 11 and 12 to short-hour tactics and other "show of force" amounting in most cases to virtual strikes. When the Government still refused to cooperate, the union squeezed in another coup of strikes on unscheduled March 16 to the surprise and indignation of the general public.

Fear was once afloat if this consecutive strikes by the National Railways Workers Union, which virtually holds every best card in the matter of transportation, would deal an unredeemable blow to the Japanese industry. But the Government and the reigning Liberal-Democratic Party finally showed willingness to negotiate and on March 15 the authorities asked for the counsel by the Mediation Board. The Government promised that it would honor the Mediation Board's decisions. Thus parried by the authorities, the Railways Union's scheduled March 16 strike finally fizzled away.

New Wage & Salaries for the Government Workers:—"The Law for the Revision of the Wage Bases of the Government Workers", which proposed to better the standards of the Government workers' salaries and wages, was finally sent to the Diet for study after the Cabinet

consent. The main points in the proposed law are: 1) the simplification of the salary classes from the current fifteen steps to seven steps; 2) whereas there are only two categories of work classification in the current Government workers law, general and special (workers in tax divisions, police, sailors and teachers), the proposed law tries to divide the general work category into the following four sub-departments: a) general executive works; b) study and investigations which include laboratory workers and experiment station employees; c) technical works which include typists and motor-car drivers; d) welfare works which include physicians and nurses in Government-sponsored hospitals. This new classification will help eliminate frictions between the Government workers in different types of works; 3) the new law allows ¥500-¥800 increase in the initial salaries to the university graduates. High-school graduates have still to wait for the similar pay raise in the future; 4) the new law makes the advancements more rigidly regulated with the result that some workers reach the wage ceilings sooner than before; 5) whereas there are three wage raise periods (6 month, 9 month and 12 months) in the current law which the particular Government office is allowed to adopt, in the new law, there shall be only one pay raise in 12 months.

With the start of the new law, every Government worker gets one step forward in the salary system and his wage envelope will be fatter by ¥1,240. The capital necessary for the pay hike would amount to ¥15.6 billion.

The labor is opposed to the items 4 and 5 in the proposed law revision on the ground that they are disadvantageous in the long run to most of the workers.

Labor Shortage in some Industries:—

With the booming business, there are some industries in which labor shortage is fairly acute. Of course there are still 2.6 times more job-seekers than the jobs offered and there are always many who are dissatisfied with their current jobs.

It is still heartening for the overpopulated Japan to see some industries which could offer more jobs than the job-seekers. One of such industry is shipbuilding which has been favored by the world-wide shipping boom and another is machinery field which has also been enjoying a brisk business for quite some time. Petroleum is still another industry which is begging for people to be employed. Chemical industry circles are also suffering from the acute labor shortage.

Foreign Trade

Anglo-Japanese Trade Agreement

Trade talks between Japan and Britain held in London since Oct. 1, 1956 reached a final conclusion Feb. 26, 1957.

Through the negotiations, Japan has achieved, first, the abolition or at least revisions of the obligations which Japan alone had in the last trade agreement for the period between October 1955 and September 1956. For example, the clause in the last agreement that the pound sterling holdings which Japan gained for exports to the sterling area should be spent by Japan exclusively for her imports from that area, now has been excluded in the new agreement.

Secondly, Britain will relax to some extent her restrictions on imports from Japan. As shown in Table 1, new items are added in OGL (Open General License category which covers those items which are to be imported without application for import permission) and OIL (Open Individual License category which covers those commodities that are in principle to be imported without individual license but on which the government may occasionally impose import restrictions), and will also increase import quotas of salmon cans. New import quotas are to be given anew for Japanese canned sardine and tuna.

Thirdly, Japan can now negotiate on trade with the British colonies directly. In the past trade negotiations, Japan insisted that the import restrictions on

Japanese goods should be relaxed by the British colonies. But Britain refused the Japanese proposition on the ground that the British government cannot interfere with the government of her colonies. Yet, Britain did not allow Japan to negotiate directly with the colonies either, on the pretext that the colonies have no right to have independent diplomatic relations with Japan.

Considering these points, the new agreement may be looked upon as an improvement.

The Abolition of Payment Agreement

Nevertheless, these points do not show any great concessions on the part of Britain. True, additions are newly made in the OGL group. However, such hopeful exports of Japan as cameras, china ware, toys are carefully left out from the OGL list. Compared with Thailand and Taiwan, Britain's treatment of Japan is still unfavorable. Moreover, the piddling improvement was not made without compensation from Japan.

Japan will allow such new imports from Britain as safety glass for automobiles, trucks for construction works, etc. The revision of Japan's unilateral obligations means just casting off the inequity involved. Namely Britain merely dropped the measures to prevent further growth of Japan's pound holdings at the time of the trade talks for the last agreement (about £100,000,000 at the end of September 1955). The balance of payments has now been reversed, but Britain gave no concession to Japan to recover the balance.

The point not to be missed is the fact that in the middle of the negotiations (toward the end of 1956) Britain unexpectedly proposed to abolish the Anglo-Japanese Payment Agreement. Britain's proposal was based on the ground that the bilateral agreement is outmoded to meet the present problems. However, the real intention behind this proposal seems to remove the payment agreement (especially its attached notes) which has grown rather cumbersome to Britain. Namely the attached notes say that, for the smooth operation of the payment agreement, both governments consider that it is desirable for Japan to have enough but not excessive pound holdings, and that they will take every reasonable step to prevent chronic unbalance of payments.

On the strength of these attached notes, Britain demanded that Japan increase her imports from the sterling area in the trade

talks in 1955. Therefore, it follows that Japan will naturally ask Britain's concession on the same ground when she has an enormous import excess. However, no concession was made in this respect. On the contrary, Britain proposed to abolish the payment agreement. The British proposal was inevitably viewed by many Japanese observers as lacking sincerity.

At any rate, Britain allowed Japan to negotiate directly with its colonies and abandoned the principle of equilibrium in the payment balance. This changed the character of the trade talks greatly. Trade talks with Britain which had treated the trade relations between Japan and the whole sterling area will now be confined to trade problems between Japan and Britain alone. Appraised from this angle, the significance of the Anglo-Japanese trade talks has become smaller than hitherto.

4. JAPAN'S £ STERLING ACCOUNTS (Oct. 1955-Sept. 1956; £1,000,000)

	Sterling Area	Other Areas	Total
Receipts	256.2	49.9	321.3
Exports.....	249.2	56.6	305.8
Britain	26.1		
Colonies	118.0		
Commonwealth ..	105.1		
Others	14.7	0.8	15.5
Payments	307.1	57.6	364.7
Imports.....	256.2	49.9	306.1
Britain	37.9		
Colonies	58.6		
Commonwealth ..	133.7		
Usance Increases	26.0		
Others	50.9	7.7	58.6
Balance.....	(→)43.2	(→)0.2	(→)43.4

Investment Abroad Buttressed

The government's plan to buttress Japan's investment abroad which was initiated by the Ishibashi cabinet last December has matured after a series of negotiations between MITI, Finance Ministry and other government offices to examine its concrete steps.

One is to boost the government-operated insurance for investments abroad through the revision of the Export Insurance Law. Another is to enlarge the scope of business of the Export-Import Bank of Japan through revising the Export-Import Bank Law.

The bill to revise the Export Insurance Law has been submitted to the Diet. The gist of the revision bill follows. The revision falls into two parts:

(1) Improvement of the insurance of principals in investment overseas;

(2) Setting up of an insurance system for profits in investment abroad. On the former, criticism has been leveled at the narrow range of risks covered and the

1. ANGLO-JAPANESE TRADE ESTIMATES (Oct. 1956-Sept. 1957; £1,000,000)

	Last Agreement	New Agreement
Japan's Exports		
To Britain	23.5	27.7
To British Colonies ..	108.3	140.0
Japan's Imports		
From Britain	18.7	31.6
From British Colonies	45.6	68.9

2. JAPAN'S MAJOR EXPORTS TO BRITAIN

- (1) New 600 OGL Commodities.....
Frozen fish, frozen fruit, frozen whale meat, cultured pearls, menthol crystal, ball bearings, beer, edible gelatin, tomato catsup, vinegar, mica, candle, etc.
- (2) New OIL Commodity..... Whale oil
- (3) Commodities given new quotas.....
Canned tuna, canned sardine, plastic material, cameras, artificial flowers, etc.
- (4) Commodities with quotas increased.....
Canned salmon, canned peach, canned loquat, artificial pearls.

3. JAPAN'S MAJOR IMPORTS FROM BRITAIN

- (1) New Items.....Safety glass for automobiles, malt, fork-lift trucks, dump-trucks, etc.
- (2) Commodities with increased quotas.....
Acetone, paints, pigments, sporting goods, canned soup, poplin, etc.

high rates of premiums. These have been largely improved in the revision. For instance, the present law limits insurance to shares. But by the revised insurance law it is to be extended to rights on equipments and raw materials, rights to mining and fisheries. The present insurance covers the losses sustained by government seizures, war, civil war and revolution. The revision will also provide insurance for losses incurred during minor riots. Also the rate of indemnity will be raised from the present 60% to 75% of losses, while the annual rate of premium was lowered from 1.5 to 1.25 per ¥100.

The newly proposed insurance against the profits in investment abroad aims at giving indemnity to losses sustained through inability to remit dividends home from abroad. Payment as indemnity is made in case of the following.

(a) Restrictions or prohibition of exchange transactions by a foreign government; (b) Halting of foreign exchange business in war; (c) Freezing or seizure of dividends.

The rate of indemnity and the rate of premium are roughly the same as in the insurance against losses in principals.

Export-Import Bank

In the revision bill of the Export-Import Bank Law which the government is preparing to submit to the Diet, the Export-Import Bank will have much greater functions for loans for investment abroad. According to the present Law, the loans by the Export-Import Bank are limited to necessary funds for investments into private enterprises' ventures abroad managed jointly by the Japanese and foreign enterprises. Further, the loans are confined to those enterprises that promote the Japanese exports of plants and imports of raw materials. In the revision bill, loans will be extended to any enterprise that will be beneficial to Japan's economy.

In the details of loans, relaxation is as follows:

(1) Loans are made to technical assistances without exports of equipments—for instance, surveys and planning for power generation stations—if they contribute to securing export-import markets or facilitating other economic relationship. (Hitherto loans have been given only for exporting plants).

(2) Through the Japanese enterpriser, loans are to be extended to the foreign partner of the joint enterprise. (The present loans are only for the Japanese investments). In this case, when the foreign partner is a government organization, the Export-Import Bank may loan directly.

(3) Loans are to be extended through

the Japanese company or individual who manages the joint enterprise for its equipment funds and long-time operation funds. (This is a new institution).

(4) Loans to Japanese companies for their enterprises abroad are confined to the manufacturing-mining industries at present. But in the revised plan, the restriction is abolished (therefore loans will also be made to trading houses, department stores, warehouses, etc.). Furthermore, not only equipment funds but also long-time operation funds will be loaned out.

(5) Funds for development projects by foreign governments, their affiliate organizations and foreign local governments, are to be loaned out by the Export-Import Bank directly or through Japanese companies or individuals, on either of the following conditions.

(a) Any of those projects should produce one of raw materials that are vital to Japanese industries and the bulk of which are assured to be shipped to Japan.

(b) Most of necessary equipments to the projects should be exported from Japan.

The maximum term of redemption will remain in the revised plan the same as the present, namely five years for loans to import-export funds and ten years for other loans, but the term may be extended when necessary.

In the Export-Import Bank's business plan for fiscal 1957, loans to be increased under the revised system are taken into consideration. Namely loans for import-export funds will remain on the same level as in fiscal 1956 (¥55,200,000,000), but loans for reparations and economic assistances will be increased from 1956's estimate of ¥3,000,000,000 to ¥6,700,000,000. Furthermore, loans for investment funds will rapidly be raised from ¥2,600,000,000 to ¥7,300,000,000.

5. LOANS BY EXPORT-IMPORT BANK

	No. of Contracts	Value (¥1,000,000)
Funds for Exports	548	169,200
Funds for Imports	2	130
Funds for Investments..	14	1,530
Total	564	170,860

Note: Figures indicate totals of the period from Feb. 1956 to the end of Jan. 1957. Of the funds for investments, only one loan was made available to cash investments in joint enterprises, namely to the tin mining development project in Thailand. Most are for investments in the form of plants.

Source: for Table 1, 2, 3, & 4: MITI.

These figures are of course mere estimates and the actual amounts will vary depending upon increases of Japanese investments abroad. And in this connection, we must note that equipment investments within Japan which have been brisk

since December 1956 still keep going strong on such a high level that individual enterprises seem to have less interest in investing abroad than expected.

In addition, some people even suggest that it would be better for Japan to expand her exports and to give technical assistance to Southeast Asian countries rather than to try abruptly to increase investments which might not be welcomed by these countries. In their opinion, the fact that there still are many steps to be taken to promote export itself merits Japan's sober reflection.

It is, therefore, a little too early to expect that the improvement through the revision will result in an immediate expansion of Japan's investments abroad.

Foreign Exchange Holdings Decreased

Exports are still brisk. But imports also continue to be on a high level. The worsening of the international balance of payments may result if imports exceed exports for long.

The income from exports in February totalled \$213 million, which is \$21 million more than February 1955. The outlay for imports, on the other hand, exceeded the previous year by as much as \$100 million to total \$278 million. The balance of payments thus ran into the red to the tune of \$63 million.

Furthermore, the outlay in March is expected to exceed the income. Therefore, the balance of payments for fiscal 1956 (April 1956—March 1957) is estimated to be only \$25 million to Japan's favor. This is a shocking decline from the Government's estimate at the beginning of fiscal 1956 which amounted to \$204 million.

In the circumstances, Japan's foreign exchange holdings, which registered a high of \$1,455 million in April 1956 and thereafter fluctuated around the \$1,400 million mark, began to decline at the turn of year and declined to \$1,286 million in February 1957. Last low of the \$1,200 million mark was recorded in October 1955.

Worse still, the figure \$1,286 million includes Japan's claims remaining in arrears in South Korea, Indonesia, and Argentina, which total \$280 million, and deferred payments. Without these, Japan's holdings amounts to little less than \$1,000 million.

The Ministry of Finance and the Keizai Doyukai have calculated their estimates of the necessary minimum of Japan's foreign exchange holdings. The Finance Ministry's estimate of it amounts to \$900 million, and the Keizai Doyukai's to \$700 million. If the Finance Ministry's estimate is correct, Japan's holdings is now nearing to the danger line.



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Investment Outlook

Toshiba Denki

Tokyo Shibaura Electric Co., Ltd has grown into a ¥9,588 million concern through a capital expansion (the fifth after the war) carried out in January, this year. Toshiba (as the Company is commonly known in Japan) is one of the "Big 3" manufacturers of electric machinery and equipments (the other two leaders being Hitachi Ltd., capitalized at ¥10,000 million, and Mitsubishi Electric Manufacturing Co., Ltd., capitalized at ¥5,400 million). Toshiba, under the present name, made its debut in 1939 through the amalgamation of Tokyo Denki K.K., Ltd. and Shibaura Seisakusho, Ltd., two representative manufacturers of electric machines in those days. Toshiba's specialties are generally classified into four major groups: 1) tube products including electric bulbs, fluorescent lamps, Brown tubes, transistors, etc; 2) light electric machine items like metres, illuminating apparatus, refrigerators and other household electric equipments; 3) heavy electric machines such as motors, turbines, transformers, electric locomotives and atomic power installations; and 4) communication equipments like radio and TV sets, broadcasting and telecasting equipments, radar equipments and shortwave wireless apparatus. The Company's production during the half-year period from April through September, 1956 was divided

into 27.6% of tube products, 18.4% of light electric machines, 41.4% of heavy electric machines and 12.6% of communication equipments. As of the end of September, 1956, Toshiba had 20,617 employees at 16 plants and two laboratories throughout the country. During the 10 odd years after the war, 40 companies ramified from Toshiba in the form of second companies and likes, of which some 16 firms are direct subsidiaries. In addition, Toshiba Shoji K.K. serves as the exclusive agent for the sales of all Toshiba products. Toshiba is closely related with a number of leading electric machine manufacturers overseas including I.G.E. (U.S.). Since before the war, Toshiba has had financial and technical tieup contracts with I.G.E. which today owns some 10.9% of Toshiba shares.

on the other hand, Toshiba is extending its technical assistance to three foreign firms, as follows: 1) technical assistance for the manufacture of integrating watt-hourmetres to India Radio & Electricals Manufacturing Co., Ltd.; 2) similar technical aid to Daido Steel Machines Mfg. Co., Formosa; and 3) technical assistance for the manufacture of fluorescent lamps and accessories thereof to Fluorescent Lamp Manufactory, Ltd., Formosa. Toshiba has been making fair business showings in recent business terms, as follows:

1. TOSHIBA'S BUSINESS RESULTS

Half-Year Term ended	Sales (¥1,000)	Profits (¥1,000)	Profit rate (%)	Dividend rate (%)
1954: September	17,063,042	1,618,622	81	20
1955: March	16,534,456	802,149	37	15
September	15,514,282	653,518	22	12
1956: March	17,452,185	781,679	26	12
September	19,689,626	1,022,941	32	12

Source: *The Oriental Economist*.

In February, 1955, the Company made a 50% capital expansion from ¥4,000 million to ¥6,000 million. The impact of larger capital, plus the effect of deflation, forced the profit to dwindle and the dividend to be cut to 15% for the term ended March, 1955. The progress of deflation and the heavier burden of capital expansion again forced the Company to reduce the dividend rate further to 12%. From then on, however, the Company's business began to recover with the profit rate

steadily rebounding under the double support of active equipment investments and the rising sales of light electric machines including household utensils. The sales for the current term ended March, this year are estimated to rise to about ¥24,000 million (as compared with ¥19,689 million for the preceding term) and the profit is also expected to swell to around ¥1,500 million (against ¥1,022 million for the preceding term).

Asahi Glass

Asahi Glass Co., Ltd. is one of the most powerful companies under the aegis of the Mitsubishi interests and is outstanding in

profitability and financial standing. Asahi Glass, while specializing in the manufacture of sheet glass as its main line, also attends

to the production of soda products by the Solvay and electrolytic processes as well as refractories. It virtually controls Japan's sheet glass industry by manufacturing 60% of the national production and also boasts of the largest scale of equipment in the soda industry. Asahi Glass is not only internationally-ranked in the scale of equipment but also in the level of production technique. Its activities overseas are equally active, as it exported a complete set of equipments of a modern soda (electrolytic process) plant to Indonesia some time ago and recently established Asahi Glass, India, Ltd. in India recently. On the strength of its almost monopolistic position in the sheet glass production through large production and modernized equipments, the profits of the Company have been on the upgrade without a break in these several years. The domestic demand for sheet glass has been increasing by leaps and bounds after the war, as building-starts have continued active either for residential houses and office buildings after they were heavily damaged during the war. With the housing shortage still apparent, the domestic production of sheet glass is bound to continue expanding while the exports have also been swelling year by year. As shown in Table 1, the domestic production of sheet glass made a phenomenal increase of 42% in the recent five years and in the same period the output by Asahi Glass swelled by 49%. With the domestic demand for sheet glass particularly brisk in calendar 1956 due to a phenomenal business boom, Asahi Glass completed the expansion of its sheet glass plant by the middle part of the year and succeeded in boosting the output by 20%, thus contributing greatly towards the further improvement of its business.

2. SHEET GLASS PRODUCTION (In 1,000 c/s)

Year	Asahi Glass	Nippon Sheet Glass	National total
1952.....	3,071	1,833	5,415
1953.....	3,122	2,314	5,826
1954.....	3,677	2,488	6,165
1955.....	3,799	2,851	6,650
1956.....	4,589	3,135	7,724

The business of Asahi Glass has been making an extremely fair showing with the total profit after tax for the half-year term ended December, 1956 reaching about ¥1,000 million, large enough to give a 20% dividend without difficulty. Due to high profits reaped, the Company has been able to leave a comfortable sum for reserves and capital accumulation. For the last term ended December, the Company

earmarked ¥420 million for depreciation and ¥640 million for profit reserves while its debts were reduced almost to nil. According to expert calculations, the domestic demand for sheet glass is estimated to increase at the rate of 10% annually, and Asahi Glass has been pushing its production increase plan on a well-calculated basis. During 1956, the Company erected a new sheet glass kiln while the program for 1957 calls for the erection of another sheet glass kiln and the expansion of its polished plate glass mill. In addition to the expansion of its glass department, the Company is also busy boosting its soda branch and plans the construction of a new soda plant (ammonium chloride process) with material ammonium to be supplied from a natural gas mine newly purchased in Chiba. With the new production boost of sheet glass due to start from the autumn of 1957 and the new soda plant scheduled to begin operation a year later, the Company is expected to make plant and equipment investments totalling some ¥10,000 million from 1957 through 1958. Asahi Glass increased capital by 60% (partly through share dividends) from ¥3,100 million to ¥5,000 million at the end of 1956. In view of the latest business showing, it will be able to continue a 18-20% dividend with

ease until the next capital expansion due within two years.

To cope with the energetic expansion of its business, including the advance to new fields, the Company has created several subsidiary companies. Outstanding among such new affiliates are Asahi Special Glass (for the manufacture of television bulbs) and Asahi Fibre Glass (for the manufacture of fibre glass). The former firm has a technical tieup contract with Coning Glass Works (U.S.) and the latter is a joint project with Owens-Coning Fibre Glass Co. (U.S.).

Asahi Glass shares since October, 1956 (ex right) moved between the high at ¥179 and the low at ¥130 and stood at ¥167 as of March 11. With the 20% dividend expected to continue, the yield stands at 6%, the level somewhat lower than the yields of some other leading shares. As an object for long-range investment, however, Asahi Glass shares are considered a fair buy.

3. ASAHI GLASS'S BUSINESS TRANSITIONS (In million yen)

Terms	Sales	Profit	Profit rate (%)	Dividend rate (%)
1954: June..	7,526	447	59	30
Dec..	8,185	426	32	20
1955: June..	7,649	455	29	20
Dec..	9,048	550	39	20
1956: June..	9,492	630	41	20
Dec..	11,639	966	58	20

Notes: Profit after tax. Dividend per annum.

Mitsubishi Chemical

Mitsubishi Kasei Kogyo (Mitsubishi Chemical Industries, Ltd.) has become completely streamlined into one of the major companies in this country in these two years or so through rationalization of its fertilizer division and the production boost of coke. Profit yields have also been markedly boosted. As of December 27, last year, the Company increased capital to ¥3,967 million and boosted the dividend rate 5% to 15% as from the half-year term ended January, this year. In addition to a new program to further rationalize and expand production in the fertilizer and coke departments, Mitsubishi Kasei is preparing to advance to the synthetic fibre branch with a new project to industrialize acrylic-nitrile. Production of the synthetic fibres belonging to the acrylic-nitrile group has already been started by leading fibre and chemical companies including the Kanegafuchi Chemical Industry-Nitto Chemical tieup. Mitsubishi Kasei's advance to this field will be made through a technical tieup with Mitsubishi Rayon Co. To that end, the Company plans to erect a plant with the daily capacity of 20 tons with the products delivered to Mitsubishi Rayon and other chemical fibre companies, and also for its own advance to secondary or tertiary chemical products. As raw material for the proposed plant, the Company is expected to use hydrocyanic acid obtained through the utilization

of colliery gas. Under the present plan, the Company will erect a acrylic-nitrile plant at Kurosaki at the total cost of ¥1,500 million early in 1958. Mitsubishi Kasei also is planning to advance to the production of terephthalic acid as raw material for manufacturing "Terylene."

The Company's fertilizer and coke departments were greatly strengthened through the completion of the 2nd rationalization plan in March with the ammonium sulphate production at the Kurosaki plant boosted to 290,000 tons per year. With the completion of the 3rd rationalization plan due in March, 1958, the ammonium sulphate output is scheduled to leap further to 400,000 tons a year with the consequent lowering of the production cost through the wider use of colliery and coke-furnace gases. The Company's sales for the half-year period ended January this year totalled ¥8,382 million and the profits reached ¥577 million (with the profit rate against the paid up capital standing at 36%). With the increased output of tar products and the slip of the production costs likely for the current term, the sales are expected to further swell to ¥9,400 million and the profits will also gain nearly ¥200 million. Hence, the continuation of the 15% dividend is expected assured despite the impact of capital expansion.

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Book Review

The Cotton Industry of Japan—Its Past, Present and Future—
by Keizo Seki. *Japan Society for the Promotion of Science,*
Tokyo 1956. \$6.50 pp. 417

The cotton industry was started in Japan only after the middle of the 19th century. By then the cotton spinning in the industrially advanced countries in Europe had already progressed for about a century or more. Japan's extraordinary development since then, however, has been a constant threat to the countries where the industry has boasted an older history.

The progress of the cotton industry in Japan has been well reflected in the expansion of market for her cotton goods. After the Russo-Japanese War in 1904-5, Japan succeeded in monopolizing the market in Manchuria and Korea, no less successfully making inroads into the market in China proper. The enormous development during World War I enabled her in 1933 to surpass all other countries in the volume of cotton good exports.

During the war with China and later with the Allied Powers, the cotton spinning industry had to undergo a most painful decline under the war-time regime. It emerged after the surrender deeply scathed in the prolonged war. Nevertheless a decade's assiduous reconstruction has not only restored its production and exports but pushed its position back in the forefront of international competition.

Thus, Japan who developed her cotton industry with an astounding rapidity before the war recovered from the dilapidation of the Pacific War with vibrant resiliency. What is behind this enormous vigor and vitality? To this question, the unsympathetic in their adversary criticism often tried to reduce the answer solely to low wages allegedly even lower than that in India.

Dr. Seki vigorously opposes to this view in his detailed analysis of the development of the cotton industry of Japan. In his own view, the land and climate, the skill and diligence of the people, the abundant and cheap labor force, the geographical position of Japan, the development of shipping and other industries relating to the cotton spinning all contributed to the development. In the cotton spinning industry itself, the factors that boosted the industry involved cotton blending techniques, the accumulation of capital, integrated management, mass production, and the association of companies in the industry.

After the Pacific War, these factors in the industry's development remained even though they were under the restraints of the Enterprisers Organization Laws, Elimination of Excessive Concentrations of Economic Power Laws and Foreign Exchange Control Law.

Some say that the cotton industry in Japan is on the decline. But as long as Japan's economy depends on the promotion of exports, Japan must continue to develop her cotton industry.

That is an outline of the author's view. He describes the development of the cotton industry with its factors and exhaustively treats principal problems in the management and techniques of the industry. The book is thus not only a history of its development but also offers a deep and thorough perspective to all important phases of the economic structure of the industry as it works today.

The rapid growth of Japan's cotton industry has been frequently described as a riddle of the world. The book portrays a true picture of the industry's progress for the first time to the people of other countries whose knowledge of Japan's cotton industry is often strongly spiced with misconception.

Dr. Keizo Seki entered the Toyo Spinning Company in 1908. In 1939 he became Vice-President of the Company. When the Textiles Control Board was set up in 1943, he was appointed Chairman, but returned to the Toyo Spinning Company as Chairman of the Board in 1950, holding the position ever since to date. He is one of Japan's greatest cotton industrialists who has a long personal experience with the industry since it got well on its ascendancy.

(S.S.)

Japan Bibliographic Annual 1957 by Katsuji Yabuki
Hokuseido, Tokyo 1957. xvi, 172 pp. ¥600 U.S. Price \$4.00

No bibliography can really be exhaustive even if it attempts to list books without explanatory notes. But one can at least try to improve from the first compilation of a classified list of books which serves as a starting point.

Mr. Yabuki's *point de depart* was Japan Bibliographic Annual 1956 whose entries of titles on Japan in English total about 3,600. Japan Bibliographic Annual 1957 is the result of his effort to bring the 1956 edition up to date. In this supplementary volume, an additional list of about 420 books is included. Entries are now made under the classified headings in the body of the book. The alphabetical index which also serves Annual 1956 completes the volume.

The compiler shows his aesthetic humor in the format of the book by a simple white line that delineates Mt. Fuji against the whole background of one marron color of the cover. In sharp contrast to that simple design, the dust-cover carries Korin Ogata's drawing of a man carrying a woman, an eye-catching sight that originally illustrated *Isz monogatari* (The Tales of Ise). The list of books is preceded by a few plates of pictures that include L. Teisera's map of Japan in 1595, the title page of an old Jesuit Mission publication printed by the first European press brought into Japan by P.A. Valignano, S.J. in 1590, etc. The Volume also covers periodicals in English published in Japan, in which The Oriental Economist has been added.

Explanatory notes in a line or two are added to a few titles in the new volume. This is especially to be welcomed because a mere effort to list titles without explanatory notes, though not without merits of its own if carried towards comprehensiveness, can hardly claim a better place among bibliographers than those with careful explanatory notes. One cannot help wishing that this first step towards improvement would be carried to other titles and that the explanatory notes would be critically given from a Japanese point of view. The compiler's assiduity, however, deserves to be lauded when one considers the fact that this is a work of one-man's job by a busy Japanese who saw an urgent necessity to fill the gap in bibliographical literature by which Japan is left far behind than Germany or the United States.

(M.K.)

Kyoto University Economic Review

Vol. XXV No. 2 & Vol. XXVI No. 1

Published by The Faculty of Economics, Kyoto University.

Vol. XXV No. 2 contains Yasuhiko Shima's *Some Aspects of Expenditures of the Japanese Self-Defence Agency*, Yasuo Shima's *The Industrial Revolution in Pottery in Japan*, etc. In Vol. XXVI No. 1 appear Yasuzo Horie's *The Problem of the Modernization of Japan*, Sempey Sawa's *Freight Classification Index of Japan National Railway*, etc.

The reviews articles concerning the analyses of Japan's economic development and contemporary industrial problems offer valuable source material to foreign students. The review also carries some criticisms and analyses of Keynesian Theory or Malthus-Ricardo Study.

(M.K.)

Nippon Keizai Nempo 1957 1st Quarterly.

(in Japanese) 254 pp. ¥200

Toyo Keizai Shimpō Sha, Nihonbashi, Tokyo.

This economic hand book published quarterly falls into three parts. Part I analyses the relation between Japan's foreign trade and her economic development.

Part II records the birth of the Ishibashi cabinet whose task of carrying out economic expansion was soon taken over by the Kishi cabinet on account of Mr. Ishibashi's illness, the new budget and tax reform, the banking system which started towards a reserve system, the industries under the impact of the expansion policy and the supply-demand situation, the international balance of payments, and the labor situation.

Part III deals with the world politics and economy during the period between December 1956 and February 1957. The 1955 Census and industrial statistics are this quarterly's reference materials. A chronology and statistics form the final part of the volume.

(M.K.)

1. Business Indices

Year & Month	Treasury Accounts with the Public (2) (Fiscal year) (In 100 million yen)	Bank of Japan Account (1) (In 100 million yen)		Monthly Report of All Banks (1) (In 100 million yen)		Tokyo Stock Prices (3)						
		Note issues	Loans	Deposits	Advances	Dow Jones Average (yen)	Turnovers (In million issues)	Interest Yield (%)				
1952 av.	24	5,764	2,232	22,238	21,280	245.67	2,002.6	9.85				
1953 „	951	6,298	2,987	27,076	26,712	390.90	2,091.5	7.44				
1954 „	↔ 1,900	6,220	2,433	30,366	29,119	340.79	1,238.5	9.44				
1955 „	↔ 2,766	6,738	319	37,243	31,958	374.00	2,505.3	7.96				
1956 „ .....	..	7,849	1,399	47,634	40,657	485.33	6,692.4	6.68			
1956: July	↔ 4	5,975	625	40,833	34,822	496.80	417.1	6.51				
August	398	5,924	926	41,683	35,685	502.03	417.2	6.69				
September	↔ 51	5,995	913	44,258	37,208	487.24	323.2	7.25				
October	↔ 333	6,110	756	43,635	37,219	496.19	540.3	7.25				
November	↔ 213	6,263	711	45,237	38,418	532.76	1,053.0	6.66				
December	↔ 870	7,849	1,399	47,634	40,657	554.72	668.9	6.77				
1957: January	1,409	6,765	1,661	46,812	40,834	572.80	976.9	6.47				
February	957	6,586	2,415	..	..	573.99	751.1	6.44		
Year & Month	Tokyo Wholesale Price Indices (1) Total Average		Tokyo Retail Price Indices (1) Total Average	Export & Import Price Indices (1) (July, 1949=100)		Cost of Living Tokyo (4) (Nov., 1946=100)	Consumer Price Indices (1951=100) (5)					
	1952=100	1934-1936=100	1952=100	Exports	Imports		Tokyo	All Cities				
1952 av.	100.0	84,921.5	100.0	134.9	122.1	681.9	104.2	105.0				
1953 „	100.4	85,157.3	103.5	127.9	110.1	782.1	112.0	111.9				
1954 „	99.7	84,920.8	106.9	123.0	105.7	850.2	118.1	119.1				
1955 „	97.9	84,293.1	102.4	123.5	106.5	847.4	116.4	117.8				
1956 „	102.2	85,793.4	102.1	128.9	104.5	832.3	117.5	118.4				
1956: July	101.6	35,595.3	▲ 103.1	127.9	104.0	838.3	115.0	117.2				
August	102.8	36,015.7	103.3	128.3	103.9	832.1	116.5	118.4				
September	104.7	36,681.3	102.6	129.6	103.4	820.3	117.2	118.5				
October	104.5	36,611.3	102.7	130.0	103.4	828.2	118.4	119.4				
November	105.6	36,996.6	101.7	130.9	105.1	825.8	117.7	118.5				
December	106.4	37,276.9	101.5	131.8	106.4	827.4	118.9	120.1				
1957: January	106.7	37,382.0	▲ 102.3	130.9	107.3	847.0	119.8	121.3				
February	106.6	37,347.0	102.3	..	..	860.3	119.4	..		
Year & Month	Consumption Level (6) (1934-1936=100)			Manufacturing Industry Wages (7) (1934-6=100)		Employment Indices for Mfg. Industries (7) (1947=100)	Number of Unemployed (5) (In 10,000)	E.P.B. Indices (6) (1934-6=100)		Mining-Manufacturing Indices (1950=100) (8)	Producers' Shipments Indices (1950=100) (8)	
	Total	Urban	Non-Urban	Nominal (Yen)	Real (Indices)			Business Activity Indices	Mining Manufacturing			
1952	94.8	80.2	116.6	13,516	102.3	107.7	47	131.8	126.4	146.5	140.7	
1953	105.6	94.0	123.0	15,322	107.3	112.7	45	161.2	155.1	170.0	164.7	
1954	111.0	100.0	127.5	16,309	108.0	118.2	58	173.5	166.9	185.6	172.6	
1955	115.1	106.5	128.1	16,717	114.5	116.6	68	187.9	180.7	204.5	188.1	
1956	109.4	..	18,348	125.5	121.4	64	▲ 227.4	219.1	247.8	226.2	
1956: June	106.7	105.6	108.4	20,435	134.6	122.1	57	223.3	215.4	251.3	220.1	
July	120.8	123.3	117.1	22,214	152.6	122.6	57	227.5	219.3	250.4	227.2	
August	111.9	98.1	132.5	16,647	116.6	122.9	57	228.1	220.2	257.9	231.8	
September	107.4	99.0	120.0	16,055	112.6	123.5	56	232.9	224.9	263.2	241.4	
October	▲ 111.8	101.1	127.9	16,179	111.6	123.8	51	233.6	225.1	268.9	244.6	
November	115.3	104.7	131.3	16,692	▲ 116.3	123.9	53	241.1	232.5	274.0	247.0	
December	167.8	..	33,407	214.3	124.2	56	▲ 249.1	▲ 239.7	256.8	253.0	
1957: January	231.3	221.9	
Year & Month	Material Stock Indices (Manufacturing) (1950=100) (8)	Producer's Stock Indices Mining Mfg. Total (8)	Seller's Stock Indices (8)	Car-loadings (9)	Department Store Sales (8)	Foreign Trade (2) (In \$1,000)			Foreign Trade Volume Indices (1934-6=100) (2)		Foreign Exchange (1) (In \$1,000)	
		1950=100	1950=100	Indices 1941=100		Exports	Imports	Balance	Exports	Imports	Received	Paid
1952	145.4	121.3	85.5	103.3	15,108.9	1,272,915	2,028,193	▲ 755,278	92.4	73.6	2,239,127	1,924,815
1953	164.7	120.2	96.1	105.7	19,818.1	1,274,843	2,409,637	▲ 1,134,795	100.0	100.0	2,120,037	2,313,716
1954	165.7	155.5	109.2	105.6	22,193.7	1,629,236	2,399,404	▲ 770,168	133.3	103.6	2,309,264	2,209,296
1955	155.3	144.4	113.6	105.9	23,668.9	2,010,600	2,471,430	▲ 460,831	174.1	138.9	2,667,645	2,173,846
1956	191.9	134.3	..	113.4	28,867.2	▲ 2,500,636	3,229,738	▲ 728,955	207.9	138.2	3,224,763	2,931,429
1956: July	198.8	136.9	132.2	116.5	31,697.4	▲ 197,779	▲ 276,448	▲ 78,668	▲ 210.6	142.6	274,461	286,437
August	208.7	135.6	143.4	118.3	23,837.8	▲ 215,809	▲ 289,389	▲ 73,580	▲ 212.3	147.4	282,587	283,071
September	214.3	134.1	141.8	119.3	20,936.3	▲ 205,193	▲ 258,986	▲ 53,791	▲ 202.3	130.0	256,807	237,945
October	229.1	136.1	140.8	120.3	27,932.6	▲ 233,810	▲ 304,772	▲ 70,963	▲ 231.9	▲ 154.5	289,362	264,048
November	212.3	141.0	138.2	116.6	31,475.4	▲ 216,061	▲ 281,994	▲ 65,933	▲ 213.0	140.5	269,821	269,289
December	213.9	141.6	..	110.3	70,340.7	▲ 271,772	▲ 318,539	▲ 46,767	▲ 265.1	156.8	286,190	274,081
1957: January	120.5	..	▲ 169,006	▲ 327,975	▲ 158,969	284,689	298,770
February	213,122	343,458	▲ 130,336

Notes: ▲ in Foreign Trade means excess in import. ▲ Revised at source.
Sources: (1) Bank of Japan. (2) Ministry of Finance. (3) Tokyo Securities Exchange. (4) The Oriental Economist. (5) Statistics Bureau, Prime Minister's Office. (6) Economic Planning Board (7) Ministry of Labor. (8) MITI, (9) Ministry of Transportation

2. Treasury Accounts with the Public

(In ¥100,000,000)

(Ministry of Finance.)

Items	Fiscal 1955	Fiscal 1956									1956
	Total	Apr.-June	Sept.	July-Sept.	Oct.	Nov.	Dec.	Oct.-Dec.	Jan. 1957	Feb. 1957	Feb.
General Account											
Revenue											
Taxes	536	1,996	697	2,217	591	599	1,191	2,383	842	721	582
Monopoly	94	335	56	254	35	38	82	154	56	85	95
Others	70	164	30	98	43	33	75	150	26	30	31
Total	700	2,495	783	2,569	669	670	1,348	2,687	924	836	708
Expenditure											
Defense Expenditure	92	117	11	108	88	11	30	129	85	15	8
Defense Board	154	265	46	157	56	71	122	249	47	66	61
Public Works Expenditure	180	333	79	247	99	92	249	442	27	51	73
Local Finance Equalization Grants ..	374	748	202	461	35	360	22	416	41	1	87
Compulsory Education Expenditure ..	40	179	—	166	107	124	7	238	106	2	53
Others	456	959	242	703	283	253	531	1,062	190	250	263
Total	1,296	2,601	580	1,842	668	911	961	2,536	496	385	542
Balance	△ 506	△ 106	203	727	1	△ 241	387	151	428	451	166
Special Accounts and Others											
Foodstuff Control	384	579	△ 93	△ 399	△ 300	△ 113	△ 612	△ 1,024	307	258	10
Trust Fund Bureau	△ 66	△ 200	△ 16	△ 84	△ 55	2	△ 231	△ 283	△ 16	△ 5	77
Industrial Investment	—	28	60	43	△ 16	△ 15	9	△ 22	△ 13	—	△ 15
National Railways and Nippon Telegraph & Tel. Public Corporation ..	42	150	△ 13	△ 12	57	16	△ 196	△ 120	120	2	50
Finance Corporation	△ 50	△ 156	73	△ 175	△ 62	71	△ 146	△ 280	△ 54	△ 8	△ 51
Others	△ 174	△ 11	43	265	△ 20	162	△ 9	126	306	154	97
Total	136	390	△ 92	△ 362	△ 366	△ 19	△ 1,185	△ 1,603	650	351	168
Designated Deposits	—	—	—	—	—	—	—	—	—	—	—
Adjustment Items	54	△ 95	△ 38	△ 1	72	△ 31	9	48	102	△ 69	△ 7
Foreign Exchange	△ 143	△ 95	△ 124	△ 21	△ 10	78	△ 81	△ 12	229	224	△ 125
Balance	△ 558	94	△ 51	343	△ 333	△ 213	△ 870	△ 1,416	1,409	957	202

3. Monthly Report of All Banks

(December, 1956: Excluding Bank of Japan)

(In million yen)

(Bank of Japan)

	All Banks						Trust Account (17)
	Debiture Issuing Banks (2)	City Banks (13)	Local Banks (65)	Trust Banks (6)	Total (86)	Leftover from Pre. mo.	
Deposits							
Current Deposits	12,179	772,523	173,401	38,995	997,099	697,058	—
Ordinary Deposits	4,995	577,681	360,655	16,785	960,118	789,901	—
Deposits at Notice	21,225	243,394	60,861	22,439	348,021	300,004	—
Time Deposits	10,277	1,254,917	708,060	34,441	2,007,697	1,562,919	—
Special Deposits	1,849	126,023	40,866	6,192	174,931	121,802	—
Instalment Savings	—	36,274	97,239	373	133,888	125,428	—
Deposits for Tax Payment	177	5,939	2,373	380	8,870	8,616	—
Deposits of Gov't and Gov't Agencies ..	1,350	131,783	—	—	133,133	117,911	* 161,505
Other Deposits	—	504	—	—	504	739	** 159,294
Total	52,054	3,149,043	1,443,557	119,609	4,764,265	3,724,382	—
Borrowed Money	11,712	195,086	1,540	4,720	213,058	85,926	—
Borrowings for Settlement of Import Bills	896	33,247	—	463	34,607	41	—
Call Money	2,620	90,971	7,855	18,628	120,074	83,711	—
Cash and Deposits							
Cash in Hand	14,401	591,863	110,625	27,184	744,057	477,067	1,304
Deposits with Domestic Money Organs ..	145	5,414	20,636	2,934	29,131	50,452	452
Call Loans	1,613	12,820	49,999	2,646	67,078	57,337	19,550
Securities							
Government Bonds	1,741	37,719	12,284	793	52,539	64,781	107
Local Government Bonds	2,041	26,812	26,386	335	55,575	29,764	1,598
Foreign Bonds	—	2,523	—	—	2,523	2,862	9
Corporate Debentures	11,082	244,828	186,118	6,687	448,716	364,741	3,207
Stocks	10,376	60,631	21,944	3,915	96,867	55,234	2,400
Other Bonds	314	279	1,267	983	2,844	1,362	23
Total	25,556	372,794	248,000	12,715	659,067	518,745	7,347
Advance							
Discount Bills	12,600	942,807	334,763	64,151	1,354,319	1,103,562	19,708
Bank Acceptance Bills	—	894	14,151	78	15,124	25,386	—
Commercial Bills	12,600	940,667	318,758	64,064	1,336,090	1,075,178	—
Documentary Bills	—	1,245	1,851	8	3,104	2,997	—
Advances against Guarantee	365,876	1,437,156	793,691	50,810	2,647,534	2,040,067	277,709
Loans on Bills	65,955	1,384,521	745,555	49,693	2,245,726	1,716,460	103,907
Loans on Deeds	299,850	17,996	37,862	770	356,479	303,990	50,863
Overdrafts	69	34,638	10,273	347	45,328	19,617	—
Loans for Settlement of Import Bills ..	1,424	60,968	860	1,092	64,345	52,188	—
Total	379,900	2,440,932	1,129,312	64,151	4,066,199	3,195,818	297,417

Note: △ Means excess of payment. * Money in trust total. ** Loan trust.

(In million yen) (Bank of Japan)

Notes: ^a includes foreign trade bills. * includes stamp bills, foreign trade bills, etc. from Oct. 14, 1946; and from June 1949 includes financial and other preferential debentures. ** HOW TO COMPUTE PER DIEM INTEREST:—In addition to the usual annual rate in percentage, computing interest by per diem rates is widely in use in Japan. This rate is expressed in sen (1/100 yen) as interest per day on ¥100 of principal. To find the usual annual rate from the per diem rate multiply the latter by 365. For example, a diem rate of 1.0 sen on a principal ¥100 gives an interest of 365 sen or ¥3.65 per year or 3.65% per annum.

10. Bank Clearings

(In billion yen)
(Tokyo Clearing House)

Year & Month	All Clearing Houses		Tokyo		Osaka	
	No. of Bills	Amount	No. of Bills	Amount	No. of Bills	Amount
	(1,000)		(1,000)		(1,000)	
1956: May....	12,099	3,040	4,863	1,405	2,454	715
June....	13,049	3,215	5,179	1,494	2,598	768
July....	12,413	3,232	5,080	1,493	2,465	770
Aug. ..	12,134	3,374	4,818	1,543	2,480	810
Sept. ..	11,520	3,457	4,628	1,591	2,346	838
Oct.	13,014	3,779	5,178	1,727	2,641	902
Nov. ..	12,511	3,599	4,995	1,599	2,544	872
Dec.	16,361	4,718	6,466	2,068	3,314	1,137
1955: Dec.	15,064	3,643	5,938	1,701	3,035	819

11. Average Yields of Debentures

(Industrial Bank of Japan)

Month	Gov't Bonds	Financial Debenture		Industrial Debenture
		Interest Bearing	Discount	
	%	%	%	%
1956: May....	—	7.411	6.224	7.674
June....	6.324	7.411	6.224	7.644
July....	—	7.411	6.224	7.918
Aug. ..	6.362	7.204	6.224	7.410
Sept. ..	6.324	7.204	6.224	7.380
Oct.	6.331	7.204	6.224	7.372
Nov. ..	—	7.204	6.224	7.367
Dec.	6.342	7.204	6.224	7.387
1955: Dec.	6.342	7.918	6.643	8.297

12. Tokyo Wholesale Price Indices

(1952 as 100)

(Bank of Japan)

Year & Month	Total Average	Agricul- tural Product	Textiles	Fuels	Metal & Machin- ery	Building Materials	Chemical Products	Sundries	By Uses		
									Pro- ducer's Goods	Capital Goods	Con- sumer's Goods
1956 Average	102.2	104.0	87.1	104.8	110.3	122.2	86.5	92.2	104.0	115.6	99.7
1956: November	105.6	105.1	87.5	109.2	118.8	131.0	86.8	93.0	108.3	123.9	102.0
December	106.4	106.8	87.3	111.6	119.2	130.6	87.0	93.1	108.7	124.5	103.4
1957: January	106.7	106.5	86.6	112.9	119.0	133.1	87.7	92.8	109.3	125.7	103.3
February	106.6	105.7	86.0	112.1	118.8	135.9	88.1	93.3	109.6	126.7	102.7
1956: February	99.3	..	86.4	105.3	101.8	113.6	86.2	91.9	99.9	107.4	98.4

13. Tokyo Retail Price Indices

(1952=100)

(Bank of Japan)

Year & Month	Total Average	Agricultural Products	Textile Products	Metal Products	Wood Products	Fuel	Miscella- neous	*Total Average	Total Average (1934-6=100)
1956 Average	102.1	109.5	88.0	98.3	102.0	111.0	94.1	98.8	30,669.4
1956: October	102.7	110.0	88.8	99.9	101.7	112.1	94.5	99.1	30,859.7
November	101.7	107.7	89.0	100.0	102.1	115.1	94.9	99.3	30,559.2
December	101.5	106.8	89.1	100.0	102.1	121.1	96.1	99.9	30,499.1
1957: January	102.3	108.2	89.0	99.6	103.7	131.9	94.7	100.1	30,739.5
February	102.4	108.0	90.0	99.2	105.0	128.7	95.2	100.5	30,769.6
1956: February	100.7	107.8	86.4	97.4	102.0	112.4	93.4	98.3	30,258.7

Note: * except perishable vegetables.

14. Consumer Price Indices

(1951=100)

(Bureau of Statistics, Prime Minister's Office)

		Total Average	Food	Staple Food	Nonstaple Food	Clothing	Light & Fuel	Housing	Miscel- laneous
All Cities	1956 Average	118.4	113.9	124.0	107.5	83.1	137.8	145.8	143.1
	1956: September	118.5	113.6	124.1	107.0	83.5	126.7	149.6	143.8
	October	119.4	114.8	124.0	108.9	83.3	139.4	150.2	144.1
	November	118.5	113.0	123.9	106.2	83.4	141.3	150.6	143.7
	December	120.1	115.3	123.6	110.1	83.5	145.0	151.2	144.2
	1957: January	121.3	116.6	123.8	112.0	83.5	152.1	151.6	144.7
	1956: January	116.4	111.9	123.6	104.5	82.2	138.0	139.2	141.1
Tokyo	1956 Average	117.5	112.4	121.2	107.8	82.4	138.6	142.2	141.6
	1956: October	118.4	113.2	121.1	109.1	83.0	139.5	145.2	142.4
	November	117.7	112.1	120.9	107.5	83.1	140.0	145.1	142.0
	December	118.9	113.7	120.7	110.0	83.0	142.9	145.3	142.7
	1957: January	119.8	114.7	120.9	111.4	82.9	150.2	145.5	142.7
	February	119.4	114.4	121.1	110.9	82.7	148.4	145.0	142.2
	1956: February	116.8	112.1	121.2	107.3	81.3	139.4	137.7	140.5

15. Coal Supply & Demand

(1,000 metric tons)

Year & Month	Carry-overs	Coal Output	Losses	Supply Total	Demand			Month-end Stocks			
					Delivery	Others	Total	At Collieries	At Port	On Market	Total
1956: October	1,900.3	4,262.0	(+) 7.8	6,170.1	4,354.9	(-) 113.6	4,241.3	517.4	505.3	900.1	1,928.8
November	1,928.8	4,289.1	(+) 7.8	6,225.7	4,474.4	(-) 123.2	4,351.2	536.0	507.0	831.5	1,874.5
December	1,874.5	4,296.7	(+) 8.4	6,179.6	4,645.1	(-) 82.6	4,562.5	539.5	477.6	600.0	1,617.1
1956: Apr.-Dec.	1,168.0	35,954.4	(+) 82.2	37,202.6	36,440.5	(-) 855.0	35,585.5	539.5	477.6	600.0	1,617.1
1955: Apr.-Dec.	2,892.8	31,915.1	(+) 67.1	34,875.0	32,672.1	(-) 309.1	32,363.0	617.8	857.4	1,036.8	2,512.0

16. Electric Energy Consumption (1,000 KWH)

Supplied by Power Companies (Over 500 kw)					Industries	Self-generated				
1956						1956				
August	September	October	November*	December*		June	July	August	September	October
235,166	239,689	247,961	242.9	252.0	Mining	84,708	48,764	42,548	47,754	50,895
36,763	34,835	33,971	32.1	32.2	Foodstuffs	825	776	523	606	1,545
174,125	175,743	187,648	186.7	196.2	Spinning	1,054	1,005	942	1,046	1,379
210,625	213,593	224,440	218.5	221.2	Paper & Pulp	63,909	63,449	67,339	65,172	69,924
753,042	772,152	788,970	734.1	639.4	Chemicals	237,923	246,129	217,639	228,697	241,572
13,478	12,817	14,391	14.8	14.6	Oil & Coal Products	2,231	2,234	2,672	2,574	3,028
19,282	20,157	21,508	21.2	21.1	Rubber Goods	—	—	—	—	—
58,502	63,935	68,493	68.4	71.6	Glass & Ceramics	109,074	109,099	111,665	111,301	99,800
559,321	566,878	581,291	577.3	544.1	Primary Metals	252,919	247,798	231,177	231,755	236,540
7,183	7,396	7,351	7.6	8.0	Metal Products	—	—	—	—	—
35,442	36,678	38,477	37.9	41.1	Machinery	214	140	483	221	527
55,060	57,593	60,300	56.5	53.7	Electric Machinery & Tools	—	—	—	—	—
71,534	73,615	76,785	78.9	81.8	Transportation Machinery & Tools	—	—	—	—	—
12,062	11,552	12,063	11.5	8.2	Other Manufacturing	—	—	—	—	—
2,006,519	2,046,944	2,115,688	2,045.6	1,937.2	Manufacturing Total	668,149	670,630	632,440	641,372	654,315
269,616	262,911	278,918	281.6	309.9	Public Utilities	210	202	211	205	210
114,151	105,374	101,849	105.0	109.4	Others	—	—	—	—	—
2,625,452	2,654,918	2,744,416	2,675.1	2,608.5	Total	717,282	719,737	675,318	689,331	705,420

17. Supply & Demand of Raw Silk

(In bales=123 lbs.)

Year & Month	Raw Silk						Silk Fabrics	
	Production	Exports	Domestic Deliveries	Stocks at Month-end	U.S. Consumption		Production	Exports
					Consumption	Stocks at Month-end		
1956: June	20,903	4,415	17,174	14,122	4,627	9,421	15,791	3,511
July	31,620	5,818	22,468	17,366	4,466	9,181	16,011	4,027
August	29,969	7,987	21,212	17,746	4,976	8,661	15,438	3,740
September	30,339	7,190	22,707	17,998	4,762	8,602	16,295	4,335
October	30,000	6,756	22,071	19,171	6,189	8,225	17,325	4,963
November	28,387	7,078	22,424	18,056	5,600	7,850	17,885	4,831
December	28,409	7,508	22,249	16,708	4,112	8,866	18,503	—
1956: January-December	312,787	75,366	232,404	—	59,295	—	187,166	38,962
1955: January-December	289,476	86,514	199,017	—	54,893	—	184,325	22,717

18. Supply & Demand of Paper and Pulp

Year & Month	Pulp (long ton)				Paper, Western Style (in 1,000 pounds)				Cardboard & Japanese Style Paper (in 1,000 pounds)			
	Production	For Paper	Deliveries	In Stock	Production	Deliveries	Self-Consumption	In Stock	Production	Deliveries	Self-Consumption	In Stock
1956: May	178,974	97,627	81,716	33,681	285,339	276,940	9,859	165,575	472,401	453,190	21,183	214,086
June	178,598	95,891	83,669	32,791	286,412	279,505	9,445	163,036	469,894	451,983	22,218	209,778
July	180,601	97,278	83,857	28,801	288,589	289,806	9,680	152,139	474,644	469,061	22,512	192,849
Aug.	185,420	99,171	85,904	29,146	296,560	295,761	9,467	143,470	480,872	472,723	21,594	179,403
Sept.	184,043	97,032	91,995	24,162	292,566	290,281	9,634	136,122	486,380	474,429	22,178	169,177
Oct.	194,374	104,686	89,080	24,770	311,805	302,956	10,701	134,270	516,072	497,693	23,656	163,899
Nov.	193,403	102,357	91,393	24,423	302,640	299,203	9,234	128,472	508,858	492,274	23,470	157,013

19. Supply & Demand of Soda and Ammonium Sulphate

(In metric tons)

Year & Month	Ammonium Sulphate			Soda Ash			Caustic Soda		
	Production	Deliveries	In Stock	Production	Deliveries	In Stock	Production	Deliveries	In Stock
1956: June	206,610	162,709	132,245	31,606	29,163	7,087	52,874	44,879	8,913
July	200,429	161,473	165,643	29,826	29,202	6,187	56,524	47,851	9,884
August	182,244	200,051	138,836	30,486	27,052	7,979	56,262	47,620	11,006
September	192,580	159,754	163,680	31,325	30,579	7,995	56,352	49,023	10,924
October	200,932	181,530	175,240	32,603	31,931	6,571	59,738	51,477	11,267
November	196,687	133,408	▲ 227,912	34,327	32,584	6,665	▲ 58,993	50,473	▲ 11,614
December	198,843	159,845	261,451	35,352	34,930	5,443	59,262	51,321	11,022
1955: December	173,329	185,998	136,027	29,879	31,072	2,742	47,033	41,659	7,766

Note: * in Table 20 are in million KWH.

Sources: 15. MITI 16. Public Utilities Bureau.

17. Central Raw Silk Association.

18. MITI.

19. MITI.

▲ Revised at source.

20. Supply & Demand of Pig-iron and Steel Materials
(In tons)

(MITI)

Year & Month	Pig iron			Steel Materials					
	Production	Deliveries	In Stock	Steel			Special Steel		
				Production	Deliveries	In Stock	Production	Deliveries	In Stock
1955: Total	5,216,766	1,204,402	88,819	6,931,774	5,363,447	281,393	318,616	238,824	24,463
1956: July	483,032	102,571	102,219	685,542	537,568	267,859	42,297	33,109	19,305
August	501,253	105,882	73,427	694,212	544,177	268,992	42,450	30,414	20,117
September	517,342	109,349	77,760	693,735	521,419	278,069	46,438	33,227	21,345
October	518,324	116,832	86,865	633,850	503,595	273,904	46,490	35,550	21,464
November	526,795	106,550	82,378	778,539	586,892	290,512	49,359	37,176	21,775
1955: November	452,037	108,932	74,926	611,621	473,155	317,831	29,050	20,909	24,516

21. Indices for Industrial Activities
(1934-36=100)

(Economic Planning Board)

Year & Month	Industrial Activities				Manufacturing									
	All	Public Works	Mining-Manu-facturing	Mining	All	Food-stuff	Textiles	Printing & Binding	Chemicals	Rubber & Leather	Wood & Wood Products	Ceramics	Metals	Machinery
	(153)	(2)	(151)	(10)	(141)	(12)	(12)	(1)	(37)	(10)	(2)	(7)	(18)	(42)
1956 average	▲227.4	▲294.8	▲219.1	▲129.7	▲231.3	▲218.3	▲100.0	▲134.8	▲367.9	▲215.4	▲210.2	▲214.4	▲265.9	▲396.9
1956: July	227.5	292.0	219.3	131.8	231.2	234.8	103.4	142.8	379.5	207.9	208.3	212.2	265.3	352.9
August	228.1	280.2	220.2	125.6	233.0	231.8	102.1	143.2	369.0	226.9	219.6	217.8	268.6	377.2
September	232.9	283.4	224.9	131.3	238.9	214.1	107.1	139.7	356.5	240.5	223.3	224.5	278.7	411.3
October	233.6	302.2	225.1	141.5	236.6	218.5	109.3	140.3	354.7	253.2	226.5	233.4	267.0	403.7
November	241.1	308.1	232.5	140.3	245.1	222.8	109.1	142.5	372.6	242.6	228.6	238.0	298.2	412.8
December	▲249.1	▲340.2	▲239.7	▲143.1	▲252.9	▲246.5	▲109.9	▲141.4	▲408.6	▲244.6	▲225.0	▲244.5	▲298.1	▲408.6
1957: January	231.3	344.4	221.9	134.5	233.8	206.0	96.8	139.4	386.7	232.8	225.0	223.8	292.4	367.8
1956: January	189.4	285.6	181.6	122.2	189.7	197.1	85.2	118.3	322.3	171.7	185.8	172.9	227.3	254.1

22. Department Store Sales

(In million yen)

(MITI)

	By Month	No. of Stores	Total	Clothing	Sundry Goods	House-hold Utensils	Provi-sions	Dining Room	Services	Outside Store Sales	Others	Gift Certifi-cates
Total	1956: April	160	19,620	9,068	4,445	2,066	2,928	612	178	18	304	222
	May	161	17,624	7,997	3,724	2,044	2,795	573	162	16	312	158
	June	161	18,107	8,741	3,605	2,245	2,595	531	137	18	234	190
	July	161	23,690	10,630	4,639	2,699	4,595	655	134	26	312	701
	August	163	17,816	6,691	3,813	2,027	4,104	702	139	24	272	444
	September ..	163	15,647	7,188	3,264	1,758	2,507	525	135	19	252	150
	October	166	20,876	10,675	3,846	2,356	2,947	587	193	21	252	184
	November ..	167	23,524	12,943	3,864	2,631	2,992	608	199	16	269	199
	December ..	168	52,571	27,156	8,734	5,213	9,873	792	249	29	525	1,530

23. Labor Population Survey

(In 1,000)

Year & Month	Total (1) Population	Population 14 years old and over						Agriculture & Forestry		Non-Agricultural Industry	
		Total (2)	Labor Force				Not in Labor Force	Not at Work (3)	At Piece-Work (4)	Not at Work (3)	At Piece-Work (4)
			Total of the following three columns	Agricul-ture & Forestry	Non-Agricul-tural Industries	Totally Unem-ployed					
1953 Average	86,780	58,310	39,700	17,130	22,120	450	18,620	260	6,270	300	3,360
1954 "	88,030	59,280	40,150	16,670	22,910	580	19,080	250	5,790	310	3,360
1955 "	89,110	60,920	41,800	17,150	23,970	680	19,010	240	6,360	330	3,790
1956: July	90,100	62,700	44,280	18,530	25,190	570	18,320	230	4,950	440	3,360
August	90,200	62,810	43,380	17,700	25,110	570	19,360	230	7,360	440	3,830
September	90,300	62,920	43,140	17,340	25,240	560	19,710	200	6,330	300	3,290
October	90,300	63,030	44,380	18,570	25,300	510	18,600	130	5,230	280	3,270
November	90,400	63,130	43,740	17,040	26,170	530	19,330	160	5,800	240	3,380
December	90,500	63,210	42,330	14,450	27,330	560	20,780	270	6,930	290	4,060
1955: December	89,500	61,350	41,410	15,070	25,770	570	19,840	230	7,210	270	3,640

24. JPA Procurement Payments

(In \$1,000)

Year & Month	Monthly			Cumulative total as from June 26, 1950		
	Total	U.S.'s Burden	Japan's Burden	Total	U.S.'s Burden	Japan's Burden
1954 Total	453,674	268,679	184,995	—	—	—
1955 Total	355,664	233,875	121,789	—	—	—
1956: September	34,403	24,403	10,000	2,537,685	1,959,401	578,284
October	33,894	23,894	10,000	2,571,579	1,983,295	588,284
November	28,306	23,306	5,000	2,599,885	2,006,601	593,284
1955: November	26,373	18,276	8,097	2,252,463	1,750,210	502,253

The following notes & source are for Table 23:

Notes: (1) Since August, 1950, total population is the estimated total population as of the 1st of next month.

(2) Including persons whose labor force status was unknown.

(3) Among the persons holding jobs but not at work during the survey week, the following are defined as not at work: self-employed workers are not at work provided that their employees or unpaid family workers are engaged in their business during the survey week; employees are not at work provided that either they received or are expected to receive payment.

(4) Those whose working hours total only 1~34 hours in a week.

Source: Bureau of Statistics, Office of the Prime Minister.

25. JPA Procurement Contracts

(In \$1,000)

Year & Month	Contracts (Weekly total)			Cumulative total as from June 26, 1950		
	Total	Merchandise	Services	Total	Merchandise	Services
1951 Average	29,470	21,209	8,261	—	—	—
1952 "	20,335	13,830	6,505	—	—	—
1953 "	27,359	17,523	9,836	—	—	—
1954 "	19,761	9,975	9,786	—	—	—
1955 "	14,815	5,566	9,249	—	—	—
1956: March	8,251	4,788	3,463	1,730,986	1,012,320	718,666
April	14,494	7,644	6,850	1,745,210	1,019,891	725,319
May	14,843	9,275	5,568	1,759,849	1,029,027	730,822
June	19,810	10,335	9,475	1,781,728	1,039,421	724,307
July	34,992	7,614	27,378	1,816,614	1,046,982	769,632
August	19,496	2,540	16,956	1,834,992	1,050,149	784,843
September	4,857	2,343	2,514	1,838,825	1,052,312	786,513
October	14,625	6,405	8,246	1,853,255	1,058,683	794,572
November	10,052	5,661	4,391	1,863,203	1,064,277	798,926
December	7,981	3,578	4,403	1,871,091	1,067,802	803,289

26. Exports and Imports by Value and Indices

(1934-36=100 for indices)

Year & Month	Value (In \$1,000)			Value (In million yen)		
	Exports	Imports	Balance	Exports	Imports	Balance
1955 Total	2,010,600	2,471,430	→ 460,831	723,816	889,715	→ 165,899
1956 Total	2,500,636	3,229,739	→ 729,107	900,229	1,162,706	→ 262,477
1956: ▲ September	205,194	258,986	→ 58,791	73,869	93,224	→ 19,365
▲ October	233,810	304,772	→ 70,962	84,171	109,719	→ 25,546
▲ November	216,061	281,994	→ 65,933	77,782	101,518	→ 23,736
▲ December	271,772	318,539	→ 46,767	97,838	114,674	→ 16,836
1957: ▲ January	169,006	327,975	→ 158,969	60,842	118,071	→ 57,229
February	213,122	343,458	→ 130,336	76,724	123,645	→ 46,921
1956: February	185,693	220,373	→ 34,679	66,850	79,334	→ 12,485

27. Exports and Imports by Settlement Area

(In 1,000 dollars)

Year & Month	Exports				Imports			
	Total	Dollar	Sterling	Open Account	Total	Dollar	Sterling	Open Account
1954 Total	1,629,236	560,922	492,758	575,556	2,399,404	1,411,067	433,185	554,923
1955 Total	2,010,600	816,440	649,081	545,050	2,471,430	1,322,027	599,514	539,773
1956: June	210,742	96,971	72,190	40,415	280,402	156,062	88,977	35,332
July	197,784	89,674	68,351	39,749	276,448	146,389	96,240	33,814
August	215,841	96,664	76,352	42,825	289,392	145,278	104,520	39,574
September	205,229	91,293	73,514	40,420	258,986	141,972	84,100	32,908
October	233,921	106,455	84,458	42,989	304,770	177,894	91,022	35,851
November	216,068	100,702	80,966	34,400	281,995	161,378	86,965	33,649
1955: November	168,303	70,924	49,455	47,924	223,988	125,252	55,044	43,651

28. Foreign Exchange Receipts and Payments by Month

(In 1,000 dollars)

Year & Month	Receipts			Payments			Balance
	Exports	Invisible	Total	Imports	Invisible	Total	
1952 Total	1,289,185	949,942	2,239,127	1,718,361	206,454	1,924,815	314,312
1953 Total	1,156,399	963,638	2,120,037	2,100,998	212,718	2,313,716	→ 193,679
1954 Total	1,532,478	776,786	2,309,264	1,961,680	247,616	2,209,296	99,967
1955 Total	1,954,169	713,475	2,667,645	1,848,224	325,622	2,173,846	493,798
1956 Total	2,402,241	822,521	3,224,763	2,470,199	461,229	2,931,429	293,334
1956: July	204,621	69,839	274,461	242,829	43,607	286,477	→ 11,976
August	212,713	69,842	282,556	232,463	50,610	283,070	→ 516
September	187,988	68,839	256,807	207,026	30,908	237,945	18,862
October	215,857	73,504	289,362	221,399	42,648	264,048	25,314
November	197,863	71,958	269,821	234,695	34,593	269,289	532
December	205,820	80,370	286,190	231,868	42,213	274,081	12,108
1957: January	218,714	65,974	284,689	261,759	37,011	298,770	→ 14,082
1956: January	181,083	57,257	238,341	179,511	29,301	208,812	29,528

Note: ▲ Revised at source. Imports & exports values are all re-checked at source.

Source: Table 25, Economic Planning Board; Table 26, Finance Ministry for value and Economic Planning Board, for indices; Table 27, Ministry of Finance; Table 28, Foreign Exchange Control Dept., Bank of Japan.

29. Exports and Imports by Country

(In million yen)

Settlement Area	Countries	Exports				Imports			
		1954 Total	1955 Total	November 1956	December 1956	1954 Total	1955 Total	November 1956	December 1956
	Total Exports & Imports	586,562	723,816	77,784	97,854	863,785	889,715	101,518	114,674
	Asia Total	286,846	303,460	31,609	41,269	265,259	325,421	29,650	33,494
0	Korea	24,684	14,218	1,867	1,767	2,911	3,434	428	477
£	China	1,878	20,277	2,931	5,048	14,677	29,080	2,820	2,558
\$	Ryukyu Islands	15,529	18,288	2,226	2,718	3,645	5,738	506	706
£	Hong Kong	27,815	31,702	3,269	4,319	1,426	2,221	724	933
0	Formosa	23,734	22,978	2,099	2,833	20,552	29,116	1,320	2,031
	Southeast Asia Total	161,444	203,270	19,782	24,689	165,301	189,834	15,991	18,731
0	Indo-China	4,654	13,245	1,912	1,710	5,233	1,982	215	756
0	Thailand	23,438	22,691	2,716	3,625	24,901	22,841	771	817
£	Malayan Union	3,360	4,852	346	614	20,326	33,416	3,484	3,440
£	Singapore	13,281	21,355	1,953	2,828	2,648	5,892	1,041	1,162
0	Philippines	11,229	18,651	1,668	2,323	24,166	32,023	3,652	3,808
£	British Borneo	179	377	28	41	6,986	7,707	728	1,232
0	Indonesia	43,097	23,297	1,945	2,347	21,682	29,219	2,238	3,031
£	Burma	16,413	13,786	1,431	1,576	22,713	16,477	369	277
£	India	15,788	30,503	3,163	3,633	18,562	27,823	2,710	2,899
£	Pakistan	20,160	15,839	389	555	13,028	16,951	704	1,471
£	Ceylon	6,226	7,353	990	1,157	950	989	83	136
\$	Iran	8,446	8,072	705	1,063	7,722	7,920	553	483
£	Iraq	6,110	7,756	761	1,423	217	2,055	532	802
£	Aden	3,348	3,461	173	398	102	1,159	37	0
\$	Saudi Arabia	999	2,372	173	216	39,916	35,169	3,807	4,110
£	Kuwait	1,682	2,265	289	318	3,887	5,914	1,593	1,119
0	Turkey	2,444	1,272	3	4	2,091	396	15	9
£	Jordan	562	637	85	95	50	856	—	81
\$	Syria	1,355	2,502	125	161	222	1,425	—	53
\$	Lebanon	458	434	26	58	146	37	22	5
	Europe Total	52,665	74,086	7,428	9,194	69,526	62,999	5,657	7,079
0	Sweden	3,031	4,815	463	821	3,268	1,712	176	135
\$	Denmark	471	2,123	96	1,493	1,343	685	149	139
£	United Kingdom	18,405	21,876	1,811	1,613	13,358	13,650	1,747	2,453
0	Netherlands	7,855	9,627	710	922	4,227	4,129	382	331
\$	Belgium & Luxemburg Economic Union ..	2,896	3,736	535	600	4,955	3,248	358	360
0	France	4,189	4,182	454	452	7,400	5,507	309	575
£	West Germany	6,514	9,058	1,230	1,571	15,880	16,648	1,513	2,141
\$	East Germany	880	1,145	59	—	1,897	1,858	165	4
\$	Switzerland	1,708	2,259	327	518	3,925	4,573	463	374
\$	Spain	564	1,235	551	196	4,783	4,242	40	219
£	Italy	1,940	2,846	287	337	6,295	4,717	101	183
\$	Norway	420	542	50	57	150	98	12	13
0	Finland	551	1,419	58	134	815	474	74	2
\$	Austria	282	818	197	209	324	320	28	15
	North America Total	125,456	191,536	20,581	22,786	396,858	367,588	49,368	57,251
\$	Canada	7,576	16,254	3,050	2,139	44,117	39,175	3,243	5,355
\$	U.S.A.	99,655	161,722	15,914	19,379	304,899	278,021	35,911	45,790
\$	Mexico	10,363	2,656	553	253	33,219	30,230	7,309	3,917
\$	Cuba	1,092	1,747	77	148	8,739	9,906	2,790	1,406
\$	Panama	554	2,166	167	154	909	323	5	3
\$	Colombia	3,415	2,556	174	160	200	257	62	194
\$	Ecuador	477	549	56	64	2,122	74	6	2
	South America Total	56,924	53,533	3,114	3,797	63,829	37,432	4,202	3,910
\$	Peru	1,670	1,796	347	287	7,315	3,880	1,545	1,237
0	Brazil	28,155	12,032	890	1,981	26,580	21,340	985	1,133
\$	Argentina	17,592	28,485	447	228	21,800	8,006	834	879
\$	Chile	447	1,401	295	196	863	278	108	134
	Africa Total	49,857	74,009	13,670	19,444	18,462	22,664	2,848	2,722
0	Egypt	2,312	5,124	57	335	10,086	10,643	952	300
£	Nigeria & Gold Coast	15,305	22,034	1,950	2,224	111	62	8	22
\$	Liberia	9,055	19,060	8,849	12,896	87	19	1	—
\$	Belgian Congo	4,249	1,226	149	191	25	45	12	—
£	British East Africa	—	—	702	1,054	—	—	509	396
£	Union of South Africa	10,885	10,382	889	1,627	3,807	6,295	1,007	1,400
	Australia & Oceania Total	14,794	27,181	1,382	1,365	49,769	73,569	9,758	10,214
£	Australia	10,155	19,842	767	851	42,160	63,974	7,758	9,081
£	New Zealand	941	2,833	163	205	1,612	2,419	279	371
\$	Hawaii	2,092	2,478	308	165	638	365	144	15
£	New Caledonia	105	230	163	29	1,217	2,483	279	645
0	French Oceania	74	74	4	3	1,425	1,513	212	—
\$	Guam	405	210	30	40	727	712	137	15

Source: Finance Ministry.

Note: 0 denotes open account area; \$, dollar area; £, sterling area.

30. Exports by Major Articles

(In million yen)

Articles	Unit	1955		1956			
		Aggregate		November		December	
		Volume	Value	Volume	Value	Volume	Value
Food	—	—	47,793	—	6,677	—	4,446
Fish & Shellfish	m.t.	155,108	27,226	19,323	4,741	13,099	2,920
Canned, Bottled Fish	"	62,206	16,442	11,620	3,697	8,213	2,159
Cereals	—	—	1,287	—	77	—	93
Fresh & Frozen Fruit	m.t.	116,519	9,276	16,655	1,059	8,006	558
Sugar & Its Products	m.t.	34,039	1,434	270	37	789	60
Tea	1,000 lbs.	31,954	3,510	1,874	159	2,350	190
Beverage & Tobacco	—	—	1,214	—	67	—	90
Beer	kl.	6,399	507	—	49	—	48
Tobacco	—	—	471	—	18	—	42
Raw Materials	—	—	35,285	—	3,045	—	3,685
Lumber	cu.m.	442,008	10,438	42,346	686	43,581	781
Textile, Fibre	1,000 lbs.	69,061	20,821	6,793	1,973	7,621	2,472
Raw Silk	bales	86,712	18,005	957	1,479	1,180	1,824
Fertilizers & Mineral Products	—	—	252	—	19	—	33
Animal & Vegetable Materials	—	—	2,257	—	321	—	363
Coal & Petroleum	—	—	2,546	—	240	—	299
Animal & Vegetable Oils	—	—	6,381	—	204	—	676
Animal Oil	m.t.	—	5,448	—	123	—	527
Cod-liver Oil	"	6,729	2,155	171	121	266	146
Vegetable Oil	"	8,036	916	324	42	697	93
Chemicals, Drugs	—	—	33,751	—	2,346	—	3,555
Pharmaceuticals	—	—	2,997	—	358	—	399
Chemical Fertilizers	m.t.	762,875	15,010	33,130	667	98,994	1,590
Manufactured Products by Material	—	—	414,867	—	39,302	—	48,083
Rubber Goods	—	—	4,359	—	496	—	1,055
Tyres & Inner Tubes	m.t.	9,281	3,345	986	367	2,262	861
Wood & Cork Products	—	—	15,763	—	2,018	—	1,993
Paper & Related Products	m.t.	82,096	6,627	10,347	944	14,425	1,848
Textiles	—	—	210,588	—	22,674	—	28,862
Woollen Yarn	1,000 lbs.	7,877	6,263	740	479	915	635
Cotton Yarn	"	26,226	8,756	1,286	451	2,363	802
Rayon Yarn	"	18,046	3,281	5,258	996	6,870	1,243
Spun Rayon Yarn	"	39,224	5,897	1,681	296	2,324	418
Cotton Fabrics	1,000 sq. yds.	1,138,829	82,757	116,775	9,076	142,043	10,844
Silk Fabrics	"	30,022	5,622	25,097	1,405	36,071	2,009
Woollen Fabrics	"	17,751	10,003	2,185	1,159	3,455	1,898
Artificial Fibre Fabrics	"	895,631	55,686	105,362	7,332	130,893	9,052
Non-Metallic Minerals	—	—	30,625	—	3,263	—	3,890
Cement	m.t.	1,206,244	8,098	173,951	1,103	190,993	1,201
Glass Products	—	—	4,634	—	500	—	585
Chinaware	—	—	15,106	—	1,323	—	1,762
Precious Metals & Gems	—	—	7,846	—	936	—	885
Cultured Pearls	kg.	18,223	3,633	2,196	452	2,536	439
Base Metals & Products	—	—	117,096	—	7,272	—	7,516
Iron & Steel	m.t.	1,988,521	93,418	82,035	5,874	76,201	6,211
Steel Bars & Shapes	"	356,875	11,401	8,494	882	3,842	537
Steel Plates (ungalvanized)	"	344,719	16,801	10,486	388	4,586	205
Copper	"	41,184	13,257	433	178	256	106
Nickel	"	2,213	2,261	285	381	366	504
Aluminium	"	24,883	5,033	254	74	278	88
Metal Products	—	—	21,845	—	1,681	—	2,512
Machinery & Transportation Equipment	—	—	88,835	—	16,856	—	24,255
Machinery (excl. electric machines)	—	—	34,848	—	4,107	—	4,526
Metal Processing Machines	—	—	1,134	—	76	—	122
Textile Machines & Parts	—	—	9,562	—	1,520	—	1,622
Sewing Machines & Parts	—	—	13,938	—	1,257	—	1,332
Electric Machines	—	—	11,123	—	1,706	—	2,289
Gen. Motors, Trans. & Alternators	unit	—	2,188	—	143	—	251
Electric Bulbs	1,000 pcs.	194,791	1,601	16,248	163	14,212	170
Transportation Equipment	—	—	42,864	—	11,042	—	17,442
Railway Rolling Stock	—	—	7,814	—	1,242	—	1,061
Automobiles	—	—	3,736	3,057	216	—	—
Bicycles & Parts	m.t.	—	3,056	—	232	—	399
Ships	unit	348	28,147	19	8,999	53	15,278
Miscellaneous	—	—	90,295	—	8,791	—	12,489
Camera	—	234,471	1,680	43,219	337	44,366	375
Toys	m.t.	47,352	15,294	4,558	1,324	5,703	1,878
Livestock, Pets etc.	—	—	299	—	24	—	25
Re-export Goods	—	—	2,551	—	232	—	235
Total Exports	—	—	723,816	—	77,784	—	97,838

Note: Figures of group total include others than represented. Figures for value are rounded under one thousand.

Source: Customs Division, Tax Bureau, Ministry of Finance.

31. Imports by Major Articles

(In million yen)

Articles	Unit	1955		November		December	
		Aggregate		November		December	
		Volume	Value	Volume	Value	Volume	Value
Food	—	—	220,038	—	14,270	—	16,432
Cereals (rice, wheat & barley, etc.)	m.t.	—	158,437	292,512	8,796	464,491	10,262
Fruit & Vegetables	"	149,625	7,191	12,887	729	17,912	923
Sugar	"	1,243,131	48,692	96,916	3,477	101,521	3,566
Coffee	1000. lbs.	9,058	2,044	1,323	298	911	218
Beverage & Tobacco	—	—	4,955	—	267	—	53
Spirits	l.	—	274	—	39	—	46
Raw Materials	—	—	441,281	—	55,449	—	61,572
Hides & Skins	m.t.	61,763	8,055	6,555	984	7,419	1,082
Cow Hide	"	47,041	5,214	4,199	512	5,482	645
Box Calf	"	8,000	2,008	925	302	1,079	323
Oil Seeds	"	1,135,105	52,928	28,765	1,515	116,557	5,180
Peanuts	"	14,554	1,238	1,268	104	—	—
Copra	"	50,736	3,829	1,040	79	1,813	134
Soy-beans	"	808,177	35,368	8,036	337	85,883	3,504
Rubber	"	109,057	26,905	12,519	2,862	14,374	3,305
Crude Rubber	"	87,669	23,852	9,797	2,352	11,202	2,739
Latex	"	7,160	1,522	903	174	1,353	253
Synthetic Rubber	"	5,199	1,374	1,102	309	1,048	280
Lumber & Cork	c.m.	—	22,909	—	2,664	—	1,124
Lumber	"	2,051,859	22,243	228,803	2,575	—	—
Cork	m.t.	6,568	616	901	80	—	—
Pulp & Scrap Paper	—	—	6,849	—	1,319	—	—
Fibres & Textiles	1,000 lbs.	1,498,630	210,799	164,118	22,602	184,055	24,585
Silk (incl. cocoons)	1,000 lbs.	1,904	407	239,814	86	—	58
Wool	"	214,191	63,376	22,720	7,424	28,039	9,144
Cotton	"	972,061	130,318	123,113	14,273	136,262	14,496
Cotton Linter	"	30,754	773	1,031	23	6,043	150
Waste Cotton	"	87,211	6,920	5,938	431	8,421	675
Hard & Bast Fibres	"	117,856	7,823	15,725	598	17,679	714
Jute	"	69,843	2,604	6,557	204	6,322	202
Flax	"	5,554	608	1,126	72	826	43
Sisal Hemp	"	27,212	937	4,715	159	4,566	156
Manila Hemp	"	71,196	3,324	2,263	118	4,747	249
Fertilizers & Non-metallic Minerals	m.t.	—	36,975	—	2,925	—	3,200
Fertilizers	"	2,369,295	23,959	166,778	1,573	118,363	1,114
Salt	"	2,025,019	7,775	155,898	654	260,432	1,269
Asbestos	"	20,400	1,436	2,519	184	3,051	214
Magnesite	"	53,486	923	8,806	163	7,371	137
Metals & Ores	m.t.	7,784,569	66,867	1,395,816	20,095	1,192,595	19,857
Iron Ore	"	5,459,458	29,354	873,130	6,260	740,007	5,683
Scrap Iron	"	1,286,959	22,951	308,177	8,526	299,818	8,921
Non-ferrous Metals	"	1,021,375	12,063	206,576	3,242	144,460	3,055
Nickel	"	44,196	2,150	110,844	1,064	57,903	645
Aluminium	"	307,530	2,435	28,742	153	21,511	122
Manganese	"	343,312	1,513	24,106	436	13,654	216
Animal Materials	—	—	3,039	—	175	—	221
Vegetable Materials	—	—	5,948	—	309	—	343
Coal & Petroleum	—	—	104,040	—	13,512	—	13,945
Coal	m.t.	2,861,923	20,237	374,620	3,530	357,969	3,279
Anthracite	"	267,398	1,732	65,621	562	78,158	593
Bituminous (for coking)	"	2,575,281	18,437	294,507	2,883	252,579	2,387
Petroleum	k.l.	12,114,718	81,863	1,243,740	9,619	1,342,699	10,252
Crude & Unrefined	"	8,501,530	53,507	948,044	6,745	1,114,313	8,056
Gasoline	"	348,347	4,620	12,547	244	6,130	38
Kerosene & Gas Oil	"	222,681	2,225	283	3	113	1
Fuel Oil	"	3,004,426	19,763	274,167	2,256	216,655	1,929
Lubricants (excl. grease)	"	29,789	1,324	5,976	294	4,450	218
Petroleum Coke	m.t.	125,959	1,285	27,974	301	30,884	262
Animal & Vegetable Oils	—	—	13,118	—	616	—	748
Animal Fats & Oils	m.t.	117,680	9,173	5,933	429	5,784	452
Vegetable Oils	"	37,536	3,695	884	154	1,943	277
Chemicals, Drugs	—	—	28,874	—	4,637	—	5,415
Manufactured Products by Material	—	—	21,052	—	7,191	—	10,117
Hides, Leathers & Furs	m.t.	—	964	—	67	—	137
Rubber Goods	"	—	230	—	46	—	66
Paper & Related Products	m.t.	1,456	229	60	25	76	24
Yarns & Fabrics	—	—	3,213	—	240	—	405
Base Metals	m.t.	—	1,337	98,541	6,169	130,770	8,583
Iron & Steel	"	82,183	3,647	91,106	3,892	119,860	5,395
Other Base Metals	"	5,823	4,391	7,435	2,277	10,910	3,188
Machinery & Transportation Equipment	—	—	47,665	—	4,548	—	5,135
Machinery (excl. electric machines)	—	—	33,258	—	3,105	—	3,538
Electric Machines	—	—	6,267	—	534	—	567
Transportation Equipment	—	—	8,140	—	910	—	1,029
Miscellaneous	—	—	7,895	—	893	—	1,175
Livestock, Pets etc.	—	—	124	—	11	—	15
Re-imports Goods	—	—	674	—	124	—	67
Total Imports	—	—	889,715	—	101,518	—	114,674

Note: Figures of group total include other items not represented above. Figures for value under one thousand are rounded.
Source: Customs Division, Tax Bureau, Ministry of Finance.

32. Production by Major Items

Items	In	1956 Total	1956 December	1957 January	Items	In	1956 Total	1956 December	1956 January
Electricity. Coal. Cokes. Gas			▲	▲	Ordinary Motors.....	HP	1,248,925	144,152	119,439
Electricity	mil. KWH	61,431	5,502	5,092	Ordinary Transformers.....	KVA	2,517,073	304,781	220,301
Coal	1,000 Tons	46,555	4,297	4,045	Mercury Rectifiers	KW	142,975	10,031	2,890
Cokes	"	8,240,343	776,503	790,724	Condensers (High Pressure) ..	KWA.	1,289,318	97,370	85,200
Gas	1,000 CM	2,852,104	329,457	345,930	Switchboards	Units	61,702	5,455	4,587
Minerals					Circuit Breakers	"	210,083	21,271	13,892
Gold	KG.	7,490	630	582	Electric Grinders	"	23,740	2,884	1,998
Silver	Tons	191.1	16.1	15.0	Electric Fans	"	797,290	80,064	75,219
Copper	"	77,527	6,579	6,060	Electric Bulbs	1,000 Pcs.	161,503	15,318	13,087
Lead	"	29,597	2,522	2,662	Special Electric Bulbs	"	70,691	7,149	6,201
Zinc	"	122.6	10.7	10.5	Watt-hour Meters	Units	1,940,917	163,402	149,002
Sulphuric Iron	1,000 tons	3,058.7	272.1	259.5	Electric Meters	"	53,650	6,264	5,580
Iron	"	1,051.9	86.2	80.0	Storage Batteries	Kg.	12,748,534	1,386,934	1,259,800
Refined Sulphur	"	247.3	22.7	22.5	X-Ray Equipments	Sets	9,726	377	350
Crude Oil	1,000 Kl.	350.0	29.8	30.0	Telephones	"	676,045	75,166	70,200
Natural Gas	1,000 CM.	176,77.2	17,047	16,617	Telephone Switchboards	"	5,485	803	650
Non-ferrous Metals & Products					Automatic Tel. Switchboards	Circuits	252,364	30,418	25,319
Electric Gold	KG.	9,186	777	724	Radios	Set.	2,981,175	323,023	312,947
Electric Silver	Tons	253.9	22.1	22.1	Televisions	"	312,098	40,928	36,210
Electric Copper	"	126,151	10,880	11,344	Electric Tubes for Receiving	1,000 Pcs.	45,151	4,569	4,195
Electric Lead	"	46,362	4,432	4,451	Elect. Tubes for Transmis. ..	1,000 Pcs.	143,019	11,086	12,710
Zinc	"	83,205	6,796	5,983	Truck Chassis	Units	27,866	2,808	2,725
Electric Tin	"	1,180.5	104.4	132.5	Bus Chassis	"	6,052	699	650
Mercury	"	287.0	27.4	22.5	Small Four-wheeler Chassis ..	"	67,201	7,773	5,373
Nickel	"	5,663.5	605.6	701.5	Small Three-wheeler Chassis ..	"	105,513	9,802	9,300
Aluminum	"	65,997	5,793	5,560	Two-wheelers	"	105,276	9,575	15,360
Rolled Aluminum	"	62,518	5,688	5,560	Bicycles	"	1,397,340	128,137	115,041
Rolled Copper	"	150,315	15,427	14,565	Industrial Locomotives	"	445	49	34
Wires & Cables	"	114,066	11,228	10,650	Binoculars	Pairs	410,238	40,242	39,611
Oil Products					Cameras	Pcs.	1,265,506	127,014	106,284
Gasoline	1,000 Kl.	3,035.5	303.9	289.0	Watches	"	6,892,051	677,201	647,405
Light Oil	"	886.6	89.8	69.9	Forged iron	Tons	1,241,523	122,131	105,342
Heavy Oil	"	5,982.5	544.1	504.0	Textiles & Yarns				
Lubricants	"	447.8	44.6	46.0	Cotton Yarn	1,000 lb.	1,087,021	100,035	88,127
Iron & Steel Products					Silk Yarn	"	4,573	383	303
Pig-iron	1,000 Tons	5,987.2	551.5	572.3	Rayon Staple Yarn	"	227,395	21,517	21,177
Steel	"	11,106.4	1,032.0	1,046.1	Rayon Filament Yarn	"	514,644	48,810	46,488
Open Hearth Steel	"	8,966.9	814.8	844.9	Synthetic Chemical Textiles ..	"	53,006	5,966	6,048
Converter Steel	"	448.9	38.5	36.3	Woolen Yarn	"	232,260	21,040	18,553
Electric Furnace Steel	"	1,690.5	178.7	164.9	Best Fibre Yarn	"	101,393	8,326	7,671
Ferro-alloys	Tons	276,415	14,851	13,400	Staple Fibres	"	689,924	65,224	67,389
Rolled iron materials	1,000 Tons	8,185.7	761.8	731.0	Cotton Textiles	Mil. sq. y.	3,479.8	309.9	277.0
Iron Shapes (Medium size) ..	Tons	494,535	52,605	49,451	Silk Textiles	1,000 sq. y.	212,854	20,907	16,995
Iron Bars	"	26,744	2,477	3,047	Spun Silk Textiles	"	25,688	2,404	1,824
Iron Tubes Materials	"	257,224	25,880	24,370	Rayon Textiles	"	970,693	82,776	77,468
Iron wire	"	572,391	45,060	44,004	Rayon Staple Textiles	"	1,112,251	104,822	98,640
Iron Sheets (Thick)	"	1,922,090	193,564	192,354	Woolen Textiles	"	220,384	21,670	19,288
Iron Sheets (Thin)	"	704,132	57,303	52,907	Best Fibre Textiles	"	130,722	10,259	9,573
Rolled Special Steel	1,000 Tons	494.8	49.6	49.8	Chemicals				
Iron Tubes	Tons	509,081	47,861	42,069	Ammonium	1,000 Tons	879.6	79.9	75.9
Gas-welded steeltubes	"	82,718	7,813	6,667	Ammonium Sulphate	"	3,694.9	330.9	327.6
Forged Steel	"	165,556	14,478	14,768	Superphosphate of Lime	"	2,058.8	170.3	169.5
Cast Steel	"	209,723	22,033	18,509	Carbide	"	756.0	31.3	25.9
Tin-Plates	"	244,700	23,155	22,305	Calcium Cyanamide	"	507.9	28.7	25.3
Galvanized Sheets	1,000 Tons	590.2	43.8	40.2	Synthetic Chem. Fertilizers ..	"	1,203.3	95.5	91.3
Machinery & Machine Tools					Caustic Soda	"	645.3	59.3	59.3
Steam Boilers	Tons	32,165	2,270	1,254	Soda Ash	Tons	379.4	35.4	35.7
Steam Turbines	KW.	266,921	68,000	1,200	Synthetic Hydrochloric Acid ..	"	267,421	23,661	22,841
Water Turbines	"	639,199	59,593	5,903	Bleaching Powder	"	31,713	2,695	1,634
Gasoline Engines	HP.	223,129	30,943	26,040	Liquid Choline	"	93,165	8,939	8,792
Oil Burners	"	464,959	41,767	35,723	Crude Bensol	"	118,884	11,183	11,573
Petroleum Engines	Tons	589,203	45,221	38,758	Refined Bensol	"	56,651	5,227	4,992
Machine Tools	"	11,576	1,495	945	Pure Toluol	"	9,465	814	819
Drills	Tons	16,077	1,400	1,350	Industrial Explosives	"	32,526	2,984	3,072
Transmitters	1,000 Pcs.	9,251	1,006	833	Paper & Pulp				
Cogs	"	5,564	598	504	Pulp	Long Ton	2,167,139	196,853	188,063
Thrashing Machines	Units	251,561	10,653	9,032	Western Style Papers	1,000 lb.	3,429,872	303,650	295,284
Hulling Machines	"	65,928	3,903	3,107	Ceramics				
Rice-cleaning Machines	"	79,412	9,237	6,330	Firebricks	1,000 Tons	873.0	88.7	84.8
Air Compressors	Tons	7,244	703	660	Chinawares	"	438.1	40.8	35.4
Electric Fans	"	8,181	882	620	Glass Products	"	446.8	42.9	42.4
Pumps	"	26,805	2,500	2,250	Red Bricks	Mil. pcs.	254.5	22.1	18.2
Refrigerators	"	16,490	1,622	1,180	Sheet Glass	1,000 Boxes	7,724	787	774
Conveyers	"	22,653	2,130	1,690	Cement	1,000 Tons	13,024	13,024	1,019
Cranes	"	21,708	1,608	1,500	Miscellaneous				
Winches	"	6,301	640	540	Automobile Tires	1,000 pcs.	3,150	332	325
Elevators	"	8,575	894	790	Metal Toys	"	307,736	26,432	21,716
R. Staple Weaving Machines ..	Units	21,920	1,958	1,752	Pencils	1,000 Gross	7,136	617	565
Cotton Weaving Machines ..	"	23,189	2,616	2,678	Needless	Mil. pcs.	301.4	26.3	17.8
Wool Weaving Machines	"	2,728	255	256	Match	1,000	432.8	37.9	33.7
Sewing Machines	"	1,722,366	151,895	124,790	Piano	Match tons	14,130	1,526	1,313
Lathes	Ton	6,667	634	548	Leathers	Tons	71,938	6,516	5,931
Drilling Machines	"	4,433	463	328					
Millwork Power Generators ..	KVA	788,134	124,035	15,180					

Source: Ministry of International Trade & Industry.

Note: ▲ Revised at source. ▲ Provisional figures.

33. Spot Quotations on Tokyo Securities Exchange

Names of Shares	Au- thorized (Paid-up) Capital In mil- lion yen	Divi- dends	1957			Names of Shares	Au- thorized (Paid-up) Capital In mil- lion yen	Divi- dends	1957				
			February		Mar. 15				February		Mar. 15		
			High	Low					High	Low			
Transportation			%	¥	¥	¥	Food & Fishery			%	¥	¥	¥
Iino Kaiun	6,600	8	100	87	86	Ajinomoto	2,296	25	205	190	189		
Mitsubishi Shipping	4,800	8	99	84	82	Asahi Breweries.....	1,825	20	160	150	154		
Mitsui Steamship	5,500	—	87	75	70	Dainippon Sugar Mfg.	720	25	167	153	151		
Nippon Express	(B) 7,200	16	255	223	243	Honen Oil	1,000	20	149	133	140		
Nitto Shosen	6,000	8	100	86	84	Japan Beet Sugar Mfg.	675	20	120	107	112		
N.Y.K.	11,400	—	71	65	63	Japan Distilling	1,100	20	108	100	96		
O.S.K.	7,600	—	66	60	58	Kirin Brewery	1,845	32	183	172	179		
Tobu Railway.....	1,600	13	130	125	127	Meiji Confectionery	840	27	135	131	136		
Tokyo El. Express Railway ..	3,000	15	120	114	117	Meiji Sugar Mfg.	500	30	169	155	162		
Mining & Oil						Morinaga Confectionery	750	20	175	168	166		
Dowa Mining	1,500	25	153	126	126	Nippon Breweries	1,825	20	145	133	139		
Furukawa Mining	2,100	12	119	111	114	Nippon Cold Storage	2,000	16	118	113	100		
Maruzen Oil	2,625	20	197	175	191	Nippon Flour Mills	864	20	106	100	113		
Mitsui Mining & Smelting....	2,400	18	130	115	115	Nippon Suisan	3,500	15	107	95	97		
Mitsubishi Mining.....	2,700	12	131	116	125	Nisshin Flour Milling	1,000	16	134	128	126		
Mitsubishi Metal Mining.....	2,730	18	122	107	111	Nissin Oil Mills	750	25	123	112	113		
Mitsubishi Oil	2,400	20	182	159	180	Noda Soy Sauce.....	800	30	230	215	217		
Mitsui Mining.....	1,200	—	223	190	216	Taito.....	300	45	330	296	312		
Nihon Mining.....	5,670	18	97	86	88	Takara Shuzo	3,927	20	132	123	123		
Nippon Oil	4,500	15	117	102	105	Toyo Seito	366	30	242	202	215		
Showa Oil	2,550	20	142	122	136	Chemicals							
Sumitomo Coal Mining	1,200	10	131	112	126	Dainippon Celluloid	2,000	15	100	87	86		
Sumitomo Metal Mining	2,145	18	121	105	107	Electro-Chemical	2,040	20	154	141	150		
Teikoku Oil	2,000	12	88	80	84	Kansai Paint	600	20	125	120	122		
Toa Nenryo Kogyo	3,948	56	219	175	180	Kyowa Fermentation Ind.	1,399	18	145	125	125		
Ube Industries	6,000	25	153	135	142	Mitsubishi Chem. Ind.	3,666	10	130	116	121		
Shipbuilding & Machinery						Mitsui Chemical Ind.	1,600	15	155	135	138		
Canon Camera	400	25	220	200	225	Nippon Chem. & Medicine....	800	20	109	96	99		
Ebara Mfg.	600	20	180	160	174	Nippon Soda	1,508	15	131	115	125		
Fuji Electric	2,400	18	137	121	127	Nissan Chemical Ind.	2,000	13	81	77	78		
Furukawa Electric	3,000	12	124	101	118	Nitto Chem. Ind.	2,247	8	128	126	127		
Hitachi, Ltd.	10,000	18	137	120	128	Sankyo	780	25	144	135	151		
Ishikawajima Heavy Ind.	2,630	12	98	85	86	Shin-etsu Chemical Ind.	980	15	115	103	102		
Isuzu Motor	3,000	16	120	106	109	Shin Nippon Chisso Hiryo....	2,400	15	115	98	96		
Japan Precision Ind.	800	30	176	155	171	Showa Denko	4,400	15	150	132	144		
Koyo Seiko.....	700	15	128	102	124	Sumitomo Chemical	4,000	15	157	146	148		
Mitsubishi Elec. Mfg.	5,400	15	125	102	116	Toa Gosei Chemical Ind.	2,400	20	160	139	139		
Mitsubishi Heavy Ind., Reorg.	5,600	12	133	115	115	Toyo Koatsu Ind.	3,600	20	140	125	128		
Mitsubishi Japan Heavy Ind. ..	3,000	10	109	95	98	Toyo Soda	1,200	15	97	85	87		
Mitsubishi Shipbldg. & Eng.	5,600	12	121	106	107	Miscellaneous							
Mitsui Shipbldg. & Eng.	2,240	16	118	107	109	Asahi Glass.....	5,000	20	179	161	169		
Nippon Electric	2,000	15	110	94	104	Fuji Photo Film	2,500	20	140	134	135		
Nippon Kogaku	465	15	138	120	120	Konishiroku Photo Industry ..	1,800	20	96	90	86		
Nissan Motor	4,200	20	142	128	129	Nippon Musical Instruments ..	450	18	163	157	158		
Tokyo Shibaura Electric	9,588	12	103	91	93	Nippon Sheet Glass	1,200	20	248	225	260		
Toyo Bearing Mfg.	600	20	189	166	182	Toyo Seikan	(A) 400	20	1,800	1,730	1,770		
Steel & Metal						Tokyo Rope	485	10	195	173	186		
Fuji Iron & Steel	13,000	12	86	77	77	Yokohama Rubber.....	1,000	10	195	177	193		
Kawasaki Steel	6,100	5	88	75	74	Paper & Printing							
Kobe Steel Works	3,984	12	101	90	93	Hokuetsu Paper Mills	900	10	75	69	69		
Nippon Light Metal	2,995	10	176	159	159	Honshu Paper.....	2,000	8	120	95	109		
Nippon Kokan Ind.	10,000	15	116	103	104	Jujo Paper	1,120	30	301	285	280		
Sumitomo Metal Ind.	5,000	12	111	100	103	Mitsubishi Paper Mills	1,080	15	107	94	95		
Yawata Iron & Steel.....	15,000	12	90	80	81	Oji Paper	1,600	25	270	245	251		
Textiles						Toppan Printing.....	500	23	131	120	123		
Asahi Chemical	(B) 3,675	22	463	435	435	Lumber & Ceramics							
Chuo Textile	500	10	70	62	63	Iwaki Cement	1,000	40	337	287	319		
Dai Nippon Spinning	5,250	18	120	109	110	Nihon Cement.....	5,000	24	139	123	126		
Daito Woollen Spinning	1,500	18	105	93	99	Nippon Gaishi	500	23	211	193	200		
Fuji Spinning	3,000	20	113	105	107	Nippon Toki	520	25	197	185	188		
Japan Wool Textile	2,560	20	138	130	130	Onoda Cement	6,400	16	109	99	100		
Kanegafuchi Spinning	3,738	18	125	113	116	Land, Warehouse & Trade							
Kokoku Rayon	3,000	12	74	68	71	Heiwa Real Estate.....	1,323	10	367	326	333		
Kokusaku Pulp	1,680	20	120	110	113	Mitsui Bussan.....	1,755	20	190	165	166		
Kurashiki Rayon	3,000	15	155	135	140	Mitsui Real Estate.....	420	20	115	98	100		
Kurashiki Spinning	2,600	20	125	115	119	Mitsubishi Estate	2,064	18	240	215	216		
Mitsubishi Rayon	2,250	20	128	115	116	Mitsubishi Shoji	5,000	16	135	120	120		
Nippon Pulp Ind.	1,600	20	131	121	124	Mitsubishi Warehouse	600	10	132	115	123		
Nisshin Cotton Spinning	1,560	30	227	204	209	Dept. Stores & Amusements							
Nitto Spinning	1,687	15	85	80	82	Mitsukoshi	2,430	26	258	228	226		
Ohmi Kenshi Spinning	2,000	15	76	70	72	Nikkatsu	3,287	10	56	48	52		
Sanyo Pulp	2,610	20	133	126	125	Shochiku Motion Picture.....	1,848	25	158	140	136		
Teikoku Rayon	4,800	20	171	151	150								
Toho Rayon	1,500	20	126	115	121								
Tohoku Pulp	2,028	20	122	112	114								
Toyo Rayon	6,000	20	236	220	221								
Toyo Spinning	6,450	22	203	180	184								

Notes: (A) 500 yen shares. (B) 100 yen shares, others 50 yen. □ ex-new.

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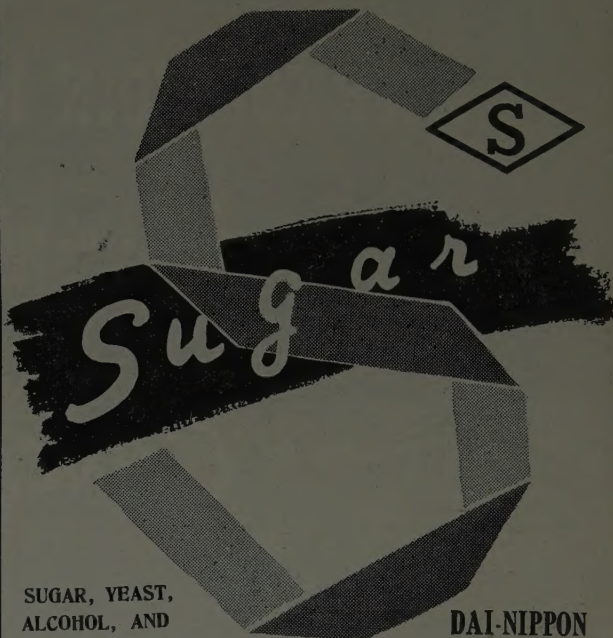


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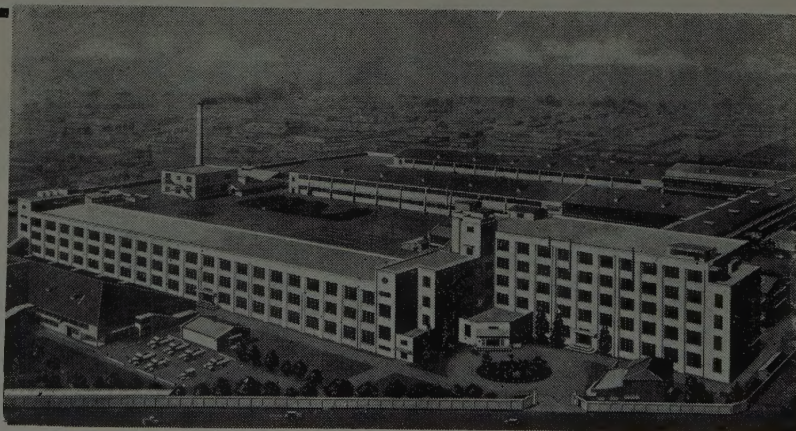
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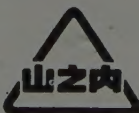
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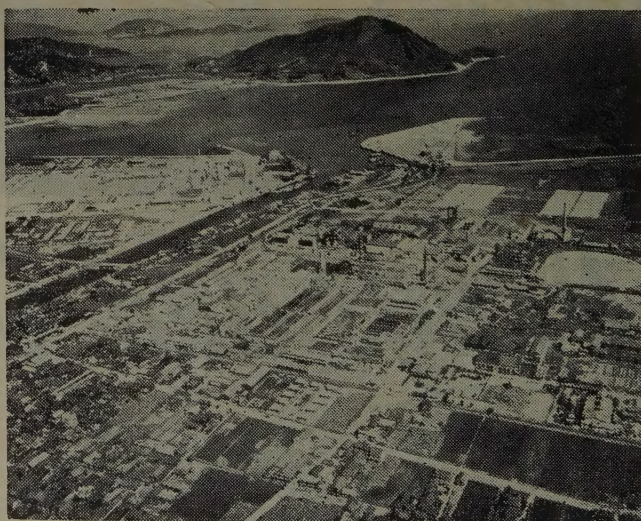
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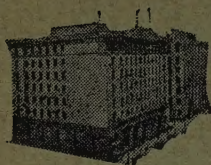
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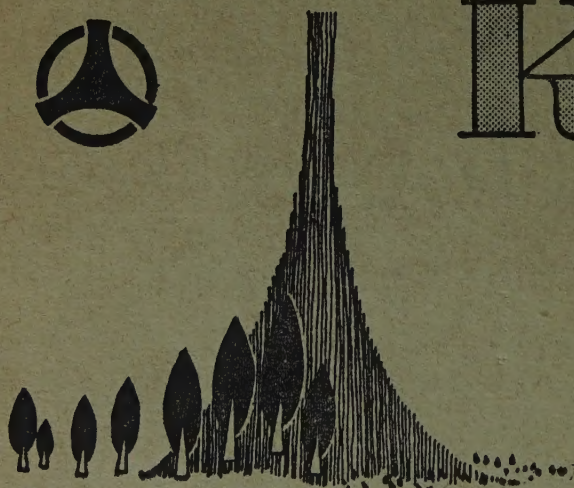
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